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PROCEEDINGS. CONFERENCE IN THE MATTER OF POLLUTION OF THE NAVIGABLE WATERS OF THE DETROIT RIVER AND LAKE ERIE AND THEIR TRIBUTARIES IN THE STATE OF MICHIGAN. VOLUME 4, SECOND SESSION, 15-18 JUNE 1965

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PROCEEDINGS

VOLUME 4

Conference

In the matter of Pollution of the navigable waters of the Detroit River and Lake Erie and their Tributaries in the State of Michigan

SECOND SESSION JUNE 15-18, 1965

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service

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WEDNESDAY, JUNE 16, 1965

9:30 A.M.

MR. STEIN: May we reconvene?

I would like to make a strong announcement here requested by the Museum. There will be no smoking, no smoking on the stage, no smoking in the audience, no smoking in the wings.

Mr. Poston?

MR. POSTON: We have other Federal agencies to report, and Colonel Bruce of the Corps of Engineers, Detroit District Office, would like to make a statement.

Is Colonel Bruce here?

MR. STEIN: Just before we begin, we have one more announcement.

MR. OEMING: Mr. Chairman and fellow Conferees:

I want to announce that we have two alternates this morning sitting in for Commission members.

Mr. Stanley Quackenbush is the alternate for Mr. McIntyre, Director of Agriculture, and Mr. Gerald Eddy is alternate for Dr. Ralph MacMullan, Director of Conservation.

STATEMENT OF COLONEL EDWARD C. BRUCE,
DISTRICT ENGINEER, U. S. ARMY ENGINEER DISTRICT,
DETROIT, MICHIGAN

COLONEL BRUCE: I am Colonel Edward C. Bruce, District Engineer, U. S. Army Engineer District, Detroit.

I welcome this opportunity to comment on two aspects of the subject of water pollution. One is the role of the Corps of Engineers in water pollution control. The second is our response to the recommendations made in the Public Health Service study regarding the Corps of Engineers maintenance dredging operations in the Rouge and the Raisin Rivers.

First, regarding what is called the Anti-Refuse Act - The Corps of Engineers is charged with administration of Section 13 of the River and Harbor Act of 3 March 1899 (33 USC 407), commonly known as the "Anti-Refuse Act." Briefly, this section makes it unlawful for anyone to discharge materials into a navigable stream which may later have to be removed by dredging, or by other means, to preserve navigation channels. An extract which contains the exact wording of this section is attached to this statement.

The courts have held that a deliberate or heedless discharge of oil into navigable waters by a vessel operating on those waters comes within the prohibition of 33 USC 407.

Periodically we bring this law to the attention of the public by distribution of a public notice, and request that apparent or probable violations be referred to the District Office. To enable us to take appropriate action on an alleged violation, a report should, if possible, include the date, time, and place of the act, in addition to the name of the vessel, agency, or persons involved.

Where circumstances warrant such action, an alleged violation will be referred to the United States District Attorney for prosecution under 33 USC 411, a penal statute which provides for a fine of from $500 to $2,500, and for imprisonment of from thirty days to one year, or both fine and imprisonment. Fortunately, such action is rarely required.

Regarding the USPHS Report - The following relates to observations and recommendations made by the Public Health Service regarding Corps of Engineers dredging operations on pages 124 and 125 of their report entitled "Pollution of the Detroit River, Michigan

Waters of Lake Erie, and their Tributaries" (April 1965). I will consider each recommendation, in turn, identify the observation that occasioned the recommendation, then provide the Detroit District's comment.

USPHS Recommendation: "1. The hopper dredges discontinue disposing of the ship's trash and garbage at the Raisin River disposing grounds."

USPHS Observation: Garbage was thrown overboard (Oct. 1963) by Dredge Lyman on the dumping grounds in Lake Erie. "It has been customary to dump garbage on the designated dumping grounds, but at no other place."

Our Detroit District Comment on this recommendation is: The Corps has a continuing program of improving garbage and trash disposal facilities aboard its hopper dredges. On 12 February 1965, the North Central Division Engineer confirmed previous instructions that all districts responsible for operation of Corps-owned vessels would observe the following instructions:

a. Dispose of trash by means of incineration or accumulation and disposal ashore.

b. Dispose of garbage by grinding and passing through an approved sewage disposal system, incineration, or collection and disposal ashore.

The Public Health Service report recognized that another of the hopper dredges, also operating in the Detroit River in October, 1963, had installed an improved system of trash and garbage disposal aboard. Their observations were:

"a. Trash is incinerated on board.

"b. The garbage is macerated in a garbage grinder located in the ship's galley prior to disposal into the Detroit River.

"c. Material that will not go through the garbage grinder and cannot be incinerated, such as tin cans and bottles, is disposed of by hand carried by the cook's mate to the diked area inside the Grassy Island dumping grounds."

Similar trash and garbage disposal equipment is planned for other hopper dredges, but some delay has been justified by doubts concerning suitability of equipment available. Funds are programmed for the fiscal year 1966 to install trash and garbage disposal equipment on other dredges.

The second USPHS Recommendation was: "2. Install aboard ship suitable treatment units to adequately dispose of all sanitary wastes including trash, garbage and human excreta."

The observation on which this has been based has been covered in part, at least, in the presentation of the preceding observation.

In addition, and quoting from the report: "There were no sanitary facilities aboard the dredge." This was based on observation on October, 1963, Dredge Lyman, also applied to Dredge Hains "except for the common marine toilet, there was no treatment of waste or chlorination."

Detroit District Comment: The observation describes a practice which has been common on Great Lakes vessels of all sizes and types. The Corps of Engineers concurs that improvement is desirable, and that it is reasonable to expect Federal agencies to lead the way. The North Central Division of the Corps of Engineers, our next higher headquarters, has programmed funds for the fiscal year 1966 for the design and installation of sewage disposal systems on all items of floating plant where flush toilets are used.

The third USPHS Recommendation: "3. Closer control be exercised to minimize the loss of dredge material from the hoppers while proceeding to the dumping grounds."

The USPHS Observation on which this was based is: While traveling down the Detroit River (Oct. 1963 Dredge Hains), a trail of turbid water was noted behind the ship. No reasonable explanation was given of why this occurred except to say that it could not be helped.

Our Detroit District Comment is that: Reasonable efforts are always made to avoid loss enroute to the disposal ground of any material carried by the dredge. The probable source of the turbidity reported is loss via the overflow ports of small portions of the very fluid material in the bins which may occur in response to any slight pitch or roll of the vessel. This may produce some discoloration, but should be of minor consequence, since only suspended particles would be lost. Increased efforts are being made during the current dredging season to verify the source of any turbidity observed, and to take appropriate corrective measures.

The fourth USPHS Recommendation: "4. A vigorous attempt be made by the Corps of Engineers to reduce the amount of dredging with action leading to reduction of discharge of settleable material by increasing the charges to polluters for removing the material commensurate with the damages to water uses incurred. It is believed that it was not the intent of Congress that such dredging operations should provide a method of disposal of solid material deposited by individuals or corporations in navigable streams. It is desirable not only that dredged channels be maintained, but that every means possible be taken to keep the cost of such maintenance to a minimum."

USPHS Observation: We found no specific observation on which the recommendation is based, but this recommendation does recognize that some wastes from industrial plants are discharged into authorized Federal navigation channels, and that such wastes may later be removed by dredging.

Our Detroit District Comment related to that recommendation is: The geographic scope of this recommendation is much broader than the area for which the Detroit District is responsible. To my knowledge, the Corps has vigorously enforced this statute, which is also provided under 33 407.

In the Detroit District, industries concerned have been cooperative, and we have experienced few problems in collecting for increased dredging costs which result from removal of industrial wastes from navigation channels.

Some districts have encountered opposition. In the so-called "flue dust cases" at Chicago in the late 1950s, litigation was instigated by the Corps of Engineers, in cooperation with the Department of Justice. The litigation continued for several years in Federal courts.

Steel companies challenged the right of the Government to make any collection for increased dredging costs under this statute. The Government was successful in the lower Federal Court, was reversed by the Court of Appeals, and finally won the right to demand collection in the United States Supreme Court. Those cases held, however that recovery of the damages by the Government would be strictly limited to instances where there was proof of increased costs of dredging due to industrial solids. Where such proof can be clearly established, appropriate charges are made.

The Public Health Service report "agrees that, in general, the present maintenance dredging operation procedure on the Rouge and Raisin Rivers constitutes an acceptable means of disposing of dredge material."

I thank the Public Health Service for this recognition of acceptable procedure. Too often such reports recognize the errors and faults and fail to recognize those things which are done well or in an acceptable manner. I assure them, and you, that the Corps of Engineers desires to equip its plant and to conduct its operations in a manner which will help to improve the quality of our water resources.

Thank you for this opportunity to comment on the observations and recommendations contained in the USPHS report.

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33 U.S.C. 407 - DEPOSIT OF REFUSE IN NAVIGABLE WATERS GENERALLY (Section 13 of the River and Harbor Act approved 3 March 1899, as amended)

It shall not be lawful to throw, discharge, or deposit, or cause, suffer, or procure to be thrown, discharged or deposited either from out of any ship, barge, or other floating craft of any kind, or from the shore, wharf, manufacturing establishment, or mill of any kind, any refuse matter of any kind of description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States, or into any tributary of any navigable water from which the same shall float or be washed into such navigable water; and it shall not be lawful to deposit, or cause, suffer, or procure to be deposited material of any kind in any place on the bank of any navigable water, or on the bank of any tributary of any navigable water, where the same shall be liable to be washed into such navigable water, either by ordinary or high tides, or by storms or floods, or otherwise, whereby navigation shall or may be impeded or obstructed: Provided, That nothing herein contained shall extend to, apply to, or prohibit the operations in connection with the improvement of navigable waters or construction of public works, considered necessary and proper by the United States officers supervising such improvement or public work: And provided further, That the Secretary of the Army whenever, in the judgment of the Chief of Engineers, anchorage and navigation will not be injured thereby, may permit the deposit of any material above mentioned in navigable waters, within limits to be defined and under conditions to be prescribed by him, provided application is made to him prior to depositing such material; and whenever any permit is so granted the conditions thereof shall be strictly complied with; and any violation thereof shall be unlawful.

Note: Oil discharged from vessel into navigable water of the United States held "refuse matter" within above statute and hence vessel committing such offense was liable for penalty provided by statute. (L. A. Marced. Circuit Court Appeals, Washington, 84 Fed. 2nd 444.)

MR. STEIN: Thank you very much, Colonel.

Are there any comments or questions?

MR. POSTON: I have one observation here.

On Page 5, where you were talking about dredging material and hauling it from navigational channels, this appears to me to be kind of a permit to a pollutor or a discharger of waste to discharge to a water course, and, for a fee, they can have this waste transferred to other locations in the waterways, and, in the case of organic materials, certainly to pollute other sections of our water.

I think that the Conferees here should consider recommendations that would require organic materials to be either put in the land surface or be in an enclosed dike area, where they would not interfere with water use by some sediment or otherwise.

How would this affect the Corps of Engineers operation?

COLONEL BRUCE: Off the cuff, I would think it would have relatively little effect on us, although it could have a slight advantage to the degree that it reduced our maintenance requirements.

I feel sure that we would have no authority to require such actions under the statutes which we enforce.

MR. POSTON: I think one other point I had was on Page 4. I presumed, but I didn't want to take it for granted, that where you said that the design installations included disposal systems in all your equipment, that meant that you would provide an accepted treatment device? When you said "included disposal systems," that meant it would include an acceptable treatment device?

COLONEL BRUCE: Yes, sir, it does include treatment.

MR. POSTON: That is all I have.

MR. STEIN: Thank you.

Are there any further comments?

MR. OEMING: No.

MR. STEIN: I would like to point out, Mr. Poston, that the Corps of Engineers, as you know, has always been a very cooperative agency with us in pollution control. Since we have the question here of the discharge of wastes into any public waters or navigable waters, the Corps' mission is to maintain these waters for navigation, and once the waste gets in there and interferes with navigation and they have to take it away, they do.

I think they have made a real effort to

protect the interests of the United States in these cases that he talks about, at the incurrence of an additional cost.

But I do think, Colonel, that we also know of this problem of the discharge of waste that the Corps picks up and moves somewhere else, which is getting increased attention from the Congress. It is just not related to this action here, but we have, within the past few days, been getting numerous inquiries from the Congress about the appropriateness of having the Corps pick up the discharge of waste and dump it somewhere else, and I suspect there may be some legislative action on that.

MR. POSTON: Mr. Chairman, I would like to make it clear that we have always gotten along very well with the Corps of Engineers. We have a very friendly relationship with them, and we have found them very cooperative.

MR. STEIN: I hope so, because we and the Corps go before the same committees of Congress, and we never want to get crossed up.

However, there is one more point to be made on the discharge of wastes from vessels. Mr. Harlow showed us a picture yesterday of that waste coming out of the vessel.

I realize that this very well may be minor and that you could take corrective action, but there was one sentence in there that it should be of minor consequence since only suspended solids would be lost.

I do think, if I read this report correctly, that the investigators have been concerned with suspended material as well as settleable material.

For example, in their recommendations, their first recommendation talks about effluent not to exceed, and this goes in general for the whole area, a suspended solids concentration of 35 mg/1, and a settleable solids concentration of 5 mg/1, so I do think that in specific cases, just theoretically, we are interested in the disposal of suspended solids as well as settleable solids.

This is not to say that what was coming out of that boat may just not be a minor problem -- I don't know -- or that it can't be corrected, but just by virtue of it being suspended solids, we would not automatically consider it no problem.

COLONEL BRUCE: I think we are in agreement.

MR. STEIN: Yes.

COLONEL BRUCE: I didn't mean to imply otherwise. Compared to other material being carried by the dredge, it is of lesser consequence.

This does not mean that it is not significant and that we will not take reasonable efforts to improve this.

MR. STEIN: Thank you, Colonel.

COLONEL BRUCE: Yes, sir. Thank you.

MR. STEIN: Are there any further questions?

MR. POSTON: No.

MR. STEIN: Thank you, Colonel.

Mr. Poston?

MR. POSTON: The U. S. Navy is represented here by Lieutenant Maurice S. Power, and he would like to make a statement at this time.

Lieutenant Power.

STATEMENT OF LIEUTENANT MAURICE S. POWER, ASSISTANT PUBLIC WORKS OFFICER, U. S. NAVAL AIR STATION, GROSSE ILE, MICHIGAN

LIEUT. POWER: I am Lieutenant Power from the Naval Air Station in Grosse Ile, where I am Assistant Public Works Officer.

I would like to make the following statement:

In the April 1965 FINDINGS of the U. S. Public Health Service, recommendations are made for improved Waste Disposal Practices at the Naval Air Station, Grosse Ile, Michigan.

The Naval Air Station concurs with the recommendations and is cooperating to the maximum extent in implementing the recommendations.

Pages 120 and 121 of the FINDINGS contain nine (9) recommendations for improvements to the Naval Air Station's Sewage Treatment Practices. Recommendations 1 through 6 therein deal with improved plant operating procedures and have been implemented. Recommendation 7 requires continuous year round chlorination of the plant effluent. This recommendation has been implemented. Recommendation 8 requires installation of an Aerobic Digestion Sewage treatment unit at the station boat dock and has been implemented. Recommendation 9, for either (1) connection to the Grosse Ile municipal collection system or (2) enlargement of the station sewage plant to include secondary treatment, is proposed by the Public Health Service in the event that Naval Air Station, Grosse Ile does not close as scheduled on 1 September 1967.

Current plans still call for the closing of the station by September 1967, so this recommendation will probably not be implemented.

Pages 123 and 124 of the FINDINGS contain a recommendation that the Naval Air Station install an oil separator on its storm water outfall line to reduce the concentration of oil from aircraft washing operation reaching Frenchman's Creek. The Naval Air Station is now working with the Public Health Service to determine the degree of chemical treatment required. It is expected that this determination will be made during June. If so, the station will request funds for an oil separator facility during June 1965.

The Naval Air Station, Grosse Ile wishes to thank the Public Health Service for the cooperation and technical assistance they have given in helping to implement the recommendations.

Thank you.

MR. STEIN: Thank you very much, Lieutenant.

Are there any comments or questions?

MR. POSTON: I have one, if I may.

MR. STEIN: Surely.

MR. POSTON: I think you can see that our crew at Grosse Ile, who has been used by the Navy, has done a good job of selling on the Navy on their feeling for water pollution abatement.

I think we should give the Navy our thanks for the assistance that they have given in many ways, such as taking pictures, assistance with our boats, storage of equipment, and provision of laboratory facilities and office space.

LIEUT. POWER: Thank you.

MR. POSTON: Thank you.

MR. STEIN: Lieutenant, I am not directing this at you, but saying this for the record and to commend you, because I am sure that this is a problem that you are probably not directly concerned with in your capacity there, but the vexing problem of phasing out of a military installation and deferring the recommendation for treatment is always a hard one.

If the installation phases out and closes, obviously you don't want the treatment or you shouldn't spend the taxpayer's money for it.

However, experience has shown that announced plans that military installations are phasing out don't always occur in time. Some of these installations, to quote another military man, "just seem to fade away." It takes years to phase them out.

I think with that kind of recommendation on our Federal installation program, we are going to have to watch very closely -- and I think this is a headquarters job and not one for you, the notion of this phasing out, but I think that if the plans are changed, of course the recommendations of our people will still hold?

LIEUT. POWER: Yes, it will.

MR. STEIN: Thank you.

LIEUT. POWER: Thank you.

MR. STEIN: At this time I would like to announce what our program is going to be.

We are going to have clarifying questions and probing questions, I suspect, by the Conferees to the people who delivered the report for the Federal Government, Mr. Harlow and Mr. Vaughan.

At the conclusion of that, the Michigan Water Resources Commission will present its report, and we will have a statement by the Michigan Department of Conservation, and other State agencies of Michigan.

It is expected that the questioning of the Federal investigators and the presentation of the reports by the State of Michigan will take most of the day.

Tomorrow we will resume again, we expect, with invitees from the State of Michigan.

With that, I would like to ask both Mr. Vaughan and Mr. Harlow to get over to the rostrum, and we will open the questioning.

For the purpose of the record, we have Mr. Richard Vaughan and Mr. George Harlow, who presented the report for the Federal Government yesterday at the rostrum.

Mr. Oeming, do you have any questions?

MR. OEMING: Yes, Mr. Chairman and Mr. Poston. I have a series of questions here that have been developed --

MR. STEIN: By the way, this is Mr. Nicholas

Olds, who is a long time colleague, and a member of the Attorney General's staff of Michigan.

I think one of the points that might have been mentioned when the Corps of Engineers representative was here, and I think Mr. Olds has consulted with him, is that the largest cost of this dredging comes from natural sedimentation. This is something which should be recognized to put this into perspective.

When you see the Corps of Engineers out here dredging, most of the time the material they are picking up is not material that has been put there by industrial or municipal operations, but has just run off through siltation, and so forth. I think this is correct, and the record should show that.

Thank you, Mr. Olds.

Mr. Oeming?

MR. OEMING: Mr. Chairman, to resume, I am prepared to ask a series of questions that have been developed after close study of the Federal report, both the Findings section and the Summary and Conclusions section, by members of the Water Resources Commission staff and the State Department of Health.

These questions are presented here for the purpose of aiding the State agencies, the Water Resources

Commission and other member agencies, in any action that may be undertaken as the result of the submission of this report and the conclusion of this conference.

It appears necessary to us to obtain some clarification here of some items that I am sure the men who prepared this report are in a position to answer and to clarify for the record.

MR. STEIN: Mr. Oeming, in addition to these two men up here, as you know, we have in the audience several specialists, biologists, bacteriologists, chemists, and so forth. I want these two men to feel free, if there is any question, to call on your experts and have those men come up, so the Conferees may have the benefit of the advice and the comments of the specialists in the area.

MR. HARLOW: Would you want us to call on these men?

MR. STEIN: Just on an ad hoc basis, as you feel it is necessary, but you call on them.

In other words, if you feel that a question may better be answered by one of the experts in the audience, call the expert up, and I think we can save time that way. Let's not try to answer it if you need their help.

MR. POSTON: I might add, Mr. Chairman, that these experts that Mr. Stein speaks of were consultants to the Project and are familiar with the ways that the studies were carried out, and did consult with Mr. Vaughan and Mr. Harlow pertaining to the report.

MR. OEMING: I believe, Mr. Chairman, that most of the questions that I have are well within the purview of these two gentlemen, and I don't see much need to go beyond, except perhaps in one specific area.

With this introduction, Mr. Chairman, and I hope I have made it clear, the purpose of this questioning here is to provide aid to the State agencies and to assist them in whatever follow-up action comes out of this conference.

I want to address myself, first of all, to the Summary, Conclusions and Recommendations section of the report.

The report states, on Page 1, that "declining levels of dissolved oxygen in the lower Detroit River as it enters Lake Erie are approaching the danger point indicating trouble in the future unless appropriate remedial action is taken."

Would you tell me what this means, specifically with reference to the present levels? Are the present levels satisfactory?

Perhaps you had better take that first, rather than be asked a multiple question here, so that we will not get confused.

MR. VAUGHAN: I wouldn't say personally that I am not satisfied with them, but I will say that we have found that they did not interfere with water uses at the present time.

MR. OEMING: In other words, may I ask this question then as a follow-up?

Isn't it true that in most cases, in pollution investigations, where multiple use is contemplated, including a waste disposal use, and isn't it a commonly accepted criteria or objective to maintain about 5 ppm as the level of oxygen in these streams?

MR. VAUGHAN: Well, if you want me to answer that from my own experience and desires, I don't know what the common practice is this way. I know we wanted to evolve a plan that would give maximum protection in the future, and counteract the problem we feel is impending and now poses an immediate future threat to the water resource of the area.

We don't like to compute the maximum amount a river or a stream can be polluted. We would rather think of it in how good we can get it.

MR. OEMING: You are not then dealing in any specific value of oxygen that ought to be an objective in these waters?

MR. VAUGHAN: We think if it was below 5, we would be more concerned. That is true.

MR. OEMING: Perhaps you think you have answered this, but, as I understand it, there is no interference now with lawful uses of the river at 5 ppm of dissolved oxygen?

MR. VAUGHAN: That is correct, yes.

MR. OEMING: Isn't this about the figure that you found as the minimum in the river?

MR. VAUGHAN: That is correct.

MR. OEMING: At the mouth of the river?

MR. VAUGHAN: That is correct.

MR. OEMING: In what way then is trouble indicated in the future?

MR. VAUGHAN: Well, we feel right now we are right at the level where any future industrial or population growth in Detroit will cause future decline of oxygen levels in the Detroit River and the Michigan waters of Lake Erie, unless additional treatment or appropriate action is taken.

MR. OEMING: So you are concerned with what might happen in the future, more than you are with what is happening at the present time with respect to oxygen?

MR. VAUGHAN: In this case, yes. We do consider it right now a threat to the future usage of the water.

MR. STEIN: I know Mr. Poston wants to make a comment.

The only thing I would like to do now is to call attention to the Federal law, which may be slightly different from the Michigan law. Under the Federal law, any pollution which endangers -- and this is the key word -- which endangers health or welfare of persons, is subject to abatement.

We have been over this many times in various cases. "Endangers" means to put in peril, to create a hazard.

I just ask you to look at that in the way that the Federal investigators, operating under the Federal law, would consider their obligations and duties.

Mr. Poston?

MR. POSTON: I have nothing.

MR. OEMING: I think the purpose of this

question, Mr. Stein, is not to examine into the Federal law, but to differentiate between what is the problem today and what may be a problem in the future.

MR. STEIN: Again, because I do think this is a key point on this issue, I want to give you this in this sense. As you know, my mind is completely open on this operation, but under the Federal law, as I understand it, when health or welfare is endangered or put in peril, we consider that the problem today.

I think this is a familiar concept in law, where we have an assault and battery. If you were sitting here on the stage with a big weight hanging by a thread over your head, and it hadn't fallen down and crushed your skull, I would think we have a problem right now for your safety.

MR. OEMING: Let me see if there is something hanging over me now. That's a pretty apt simile, I would say.

(Laughter.)

MR. STEIN: I have heard of people looking for things under the bed, but this is the first time I knew that they looked in the wings of a theater.

MR. OEMING: Could we go on?

MR. STEIN: Yes.

MR. OEMING: All right. In the first paragraph of Page 2, the statement is made that in order to maintain navigation, extensive annual dredging is required at the junction of the Detroit and Rouge Rivers and at the mouths of the Detroit and Raisin Rivers to remove deposits of suspended solids in large part originating in municipal and industrial waste discharges.

Do you find that?

MR. VAUGHAN: Yes.

MR. OEMING: The six county report on sewage disposal problems on Page 21 quotes a letter from the Corps of Engineers dated July 24, 1964, and the quotation is: "The Detroit River from Zug Island to the lower end of Bois Blanc Island has a history of little or no depositior in either the through channel (Fighting Island) or the Trenton Channel."

It is also stated that dredging occurs annually in the lower Livingston Channel and the East Outer Channel, the dredged material consisting of silty sand.

The question here refers specifically to the mouth of the Detroit River and the material that you have found, and the difference here between what you have found and what the Corps of Engineers states.

Would you comment on this, please?

MR. HARLOW: If I can, Mr. Oeming.

Our report shows, if you will refer to the graph opposite Page 220 --

MR. STEIN: For the record, where you speak of those higher numbers, you are speaking of the Findings, the second volume of the report?

MR. HARLOW: Yes.

MR. STEIN: Would you refer to that for the purposes of the record, and differentiate between the two volumes?

MR. HARLOW: I am referring to the Findings, the larger volume of the Public Health Service report.

In the area shown by the dark shaded color, the portion of that that is in the East Outer Channel, our results indicate that this material is of a degraded condition and is not what I would define as a silty sand.

By "a degraded condition," I might point out that our observation showed that in this area of the dark shaded color, the bottom deposits were of organic or of other material having a black oily appearance, and an odor of oil or sewerage.

MR. OEMING: Was this in the Livingston Channel?

MR. HARLOW: This was in the East Outer Channel and not in the Livingston Channel.

I think in the water use inventory, our report speaks that in the Livingston Channel, this is primarily dike material that falls into the channel, and this type of material has to be removed by the Corps of Engineers.

MR. OEMING: Isn't this in the Canadian waters?

MR. HARLOW: The Livingston Channel is. The East Outer Channel is in American waters.

MR. OEMING: Is this subject to discharges from Canada?

MR. HARLOW: Yes.

MR. OEMING: As well as the United States?

MR. HARLOW: As well as the United States.

MR. OEMING: Well, as a matter of fact, there is a difference then in the manner in which you have expressed yourself and the manner in which the Corps of Engineers expresses itself, in its interpretation of what it finds; isn't that so?

MR. HARLOW: That is true, but I would point out here, however, that the Corps of Engineers probably -- I do not know -- does not make a chemical analysis of this material that they remove.

We did observe it from a chemical nature, and made these conclusions. I might point out also that the material that is removed by the Corps of Engineers is partly due to the material already in suspension coming down the river, and not associated altogether with waste material.

Some of the material that is removed, however, we showed to be waste material.

MR. OEMING: Do you have any questions?

MR. STEIN: No. I am a little confused.

Were you and the Corps of Engineers referring to exactly the same area and exactly the same material?

The answer is what? Is it the same area?

MR. HARLOW: The Corps of Engineers report, if I am aware of what they are referring to, just mentioned, I think, the lower Livingston Channel and the East Outer Channel, which is a large stretch of waterway.

MR. STEIN: Where was your material taken?

MR. HARLOW: Our material was taken very close to the Detroit River Light in the East Outer Channel.

MR. STEIN: In other words, you very well -- I am just asking this for clarification. I am not sure that you are referring to exactly the same area where you took the material.

MR. HARLOW: You could never be sure that the Corps of Engineers is referring to the exact area.

MR. STEIN: Were you in a slightly different area?

MR. HARLOW: In my opinion, it would be the same area, as far as the East Outer Channel is concerned.

MR. STEIN: In your opinion, were you taking the same kind of material as the Corps, or was your material a little bit different?

MR. HARLOW: No; I would imagine it was the same material.

MR. STEIN: What do you attribute the difference to, your method of analysis and the Corps' observation, or what?

MR. HARLOW: I really can't say on what basis the Corps of Engineers make their analysis.

MR. STEIN: On which basis did you make yours?

MR. HARLOW: I have heard this mentioned

before, that the Corps of Engineers quite often classifies this material as "silty sand," and this even applies to the material they obtained from the Rouge River, which is highly organic and of a polluted nature. They called it "silty sand sludge."

MR. STEIN: On what basis did you make yours?

MR. HARLOW: On chemical observation, chemical analysis, odor, appearance of organisms, indicating a degraded condition, and methods of this sort.

MR. OEMING: May I go on?

MR. STEIN: Yes, sir.

MR. OEMING: On Page 2, Paragraph 5, the report states that concentrations of chlorides, metals toxic to fish life in minute concentrations and suspended solids in the lake portend future problems in various water uses.

In what way are future water uses threatened if concentrations remain at present levels?

I think, Mr. Chairman, this asks the question in a little better way so you don't get involved. We want to know what it is now.

MR. VAUGHAN: If there is no growth or industrial development, the answer is in no way it does, but we are assuming that there would be.

This is a problem that is a little farther off in the future, I might add, than the dissolved oxygen problem.

MR. OEMING: All right.

On Page 2 of the Summary, it is stated that a bacteriological standard frequently accepted as safe for recreation is 1,000 per 100 ml, and that the recommendations in this report are based on that standard. A similar statement is found in the Findings.

On what factual basis is such a standard predicated, and specifically to what classes of aquatic recreational activities should such a standard apply, in your judgment?

There are two questions here. What is the basis for the 1,000 index, first of all?

MR. HARLOW: Mr. Oeming, this basis, I think -- it is a generally accepted figure, commonly in use throughout the country, and we used this figure by searching through the literature, and came up with a general consensus that this was the figure that has been set and has been applied in many cases, and used to a great effectiveness for water recreational uses, water contact sports.

MR. STEIN: I just have one comment on

this, unless you want to call one of your bacteriologists for the basis figure, but several weeks ago we had finished a conference in Chicago on the lower end of Lake Michigan, and both the State agencies representing Indiana and Illinois, Mr. Gladstone and Mr. Poole, and the Federal Government agreed on this 1,000 figure for water contact at bathing beaches.

I just give you this as what seems to be accepted by the scientists.

MR. OEMING: Of course, the same question would apply there. What basis did they have?

MR. STEIN: This doesn't answer the basis.

MR. OEMING: No.

MR. STEIN: Do you feel you --

MR. OEMING: He has answered the question, as far as I am concerned.

MR. STEIN: All right. Do you want him to call the bacteriologist?

MR. OEMING: No.

MR. STEIN: All right.

MR. OEMING: In the Findings, you covered quite a little on the effect on the river of combined sewer overflows, and you also did quite a little work on the Allen Creek Drain in Ann Arbor, which is a separated system, in which storm water is separated from the sewage.

My question is, considering the bacteriological quality of surface waters collected by the Allen Creek Drain in Ann Arbor as documented in the Findings (Pages 195-197), and the nature of the Detroit Metropolitan area watershed, what concentration of coliform organisms might be expected from these sources alone in the discharge from storm sewers systems and directly from land runoff areas to the Detroit River?

MR. VAUGHAN: You are presupposing, just for a minute, that they had separate storm sewers in Detroit right now?

MR. OEMING: Either that, or else that you would stop the overflows, and you had just surface runoff from the streets, and so forth, and land area.

MR. VAUGHAN: And also, for this discussion, would you say that the other treatment recommendations were carried out?

MR. OEMING: Yes.

MR. VAUGHAN: Okay?

MR. OEMING: Yes.

MR. VAUGHAN: I would say that following heavy rainfall, it would still be likely that there would be coliform densities in the river that are above 1,000. They would be far less, however, than they are today, but without additional treatment they would still, in all likelihood, be above 1,000.

MR. OEMING: Putting it another way, Mr. Vaughan, if you were to try to meet the 1,000 index at all times, 100 percent of the times, you would have to treat surface runoff as well as combined sewer overflows, wouldn't you?

MR. VAUGHAN: I would say that you have to treat either combined waste, if you had it, or if you separated you would probably still have to treat it in this case, because of the magnitude of it.

MR. OEMING: During periods of prolonged and extensive runoff in the Raisin River, Stony Creek, Swan Creek and Sandy Creek drainage basins. what water quality, bacteriologically, can be expected dependably at Sterling State Park, provided that all recommendations of the report are met?

MR. VAUGHAN: In this case, it would be somewhat similar. There would probably be coliform concentrations in this land drainage that would affect water quality at Sterling State Park if all these recommendations were taken out.

First of all, the counts would not be as high, and the public health significance of this would be much lower.

MR. STEIN: Would you remember to talk into the mike?

MR. VAUGHAN: Was that heard?

MR. STEIN: Yes. Go on from there.

MR. VAUGHAN: I'm sorry. Just to reiterate, the counts after a heavy rain could be high in coliform concentration. We feel that the public health significance of this would be far less, because of the origin of the coliform organisms.

MR. OEMING: I don't want to pursue this too long here, but are we dealing with an absolute figure of 1,000, or are we dealing with some variation that would accommodate these increases, let us say from surface runoffs, that would not be considered as interfering with the recreational use of the beaches on Lake Erie?

MR. VAUGHAN: I think in making such a judgment as this, you should take into consideration not only the total coliform concentration, but also the fecal coliform and fecal streptococci, which we believe in those circumstances would be far less, and also the origin or the known origin of the wastes.

All these things should be taken into consideration, and that is what I based my judgment on, that in the example that you gave, although there would be times when the total coliform might go above 1,000 -- no one can tell for sure -- it is of far less public health significance than the current situation.

MR. OEMING: Well, doesn't this suggest to you that the 1,000 coliform index should be enlarged upon and include fecal coliforms and fecal streptococci then, if you are going to exercise judgment here, and depending upon your sanitary survey, if this coliform increases because of surface drainage only, and now you have brought in another factor, haven't you?

MR. VAUGHAN: Yes.

MR. OEMING: So wouldn't your objective need to include now fecal streptococci and fecal coli?

MR. VAUGHAN: I don't know if it should or not. We, of course, use it so that we have the best information upon which to base our judgment. Whether or not everyone should use this, I am not at liberty to say, or whether this should be incorporated into some sort of regulatory order or not, I don't know.

I can say that we have found it very useful in making an engineering or public health judgment.

MR. OEMING: All right.

MR. STEIN: Let me see if I can understand it. I think that has been very useful.

As I understand it, what Mr. Vaughan and Mr. Harlow have done is used this 1,000 to make recommendations. However, they have not proposed this as a standard to be met inexorably and absolutely at all times.

As I see it, on the next page they have their bacteriological density standard of 5,000 per 100 ml. In other words, in developing their recommendations they used this as a guide, but if one day in a year, or two days, or whatever the point is, it goes over 1,000 at a time, they believe that even with that, the health and welfare of the people in the area using water contact sports will be protected as far as quality of the water is concerned.

Is this the way you understand what they have said?

MR. OEMING: Well, I think in part, Mr. Stein. I think what they are saying to me is that this becomes a matter of a sanitary survey. You are not guided entirely there by the 1,000 index. You are guided by other factors in which you exercise judgment?

MR. VAUGHAN: We certainly do.

MR. OEMING: Yes.

MR. STEIN: I think they were guided in their recommendations by a 1,000 index, which they were working on. I don't think they proposed 1,000 as a test of dipping something in the water anywhere up and down the Detroit River or Lake Erie, and if you find something coming out significantly over 1,000, like 1,500, automatically you are going to throw up your hands in horror and say that all the treatment facilities were not sufficient.

MR. OEMING: I'm glad to hear you say that. I'm glad to hear you say that.

MR. STEIN: All right.

MR. OEMING: The Summary recommends a degree of treatment be provided capable of producing specified effluent characteristics, notably not to exceed 35 mg/l of suspended solids, 20 mg/l of BOD, and 15 mg/l of oil for the Detroit and Wayne County sewage treatment plants, and I guess some others, gross algal plants, and now the Trenton and Riverview plants would come under this, wouldn't they? Is that your contention?

MR. VAUGHAN: Yes.

MR. OEMING: Concentrations of other specific constituents are listed for certain waste sources.

At this point, I would like to ask you just what you mean by the recommendation that secondary treatment be provided? What does this mean to you?

Secondary treatment can mean lots of things, and I just wondered what you have in mind to attain these objectives.

MR. HARLOW: I think most sanitary engineering practice in these days is based on the fact that we consider secondary treatment as biological treatment, and to remove a certain level of biochemical oxygen demand. The figure has been set with various treatment devices between something like 75 and 90 or 95 percent BOD removal, but it is based on biological treatment.

MR. OEMING: Now I am asking for your judgment here as to what particular type of biological treatment you would think would be feasible practice in this area, in this particular situation where the flows may range from 75 million gallons a day up to 3500 million gallons per day.

MR. HARLOW: Well, in my judgment, based

on the situation here in the Detroit area, and the problems that have been encountered in regard to the pollution in the lower Detroit River and the Michigan waters of Lake Erie, and based on the facilities that the City of Detroit would have and what needs to be done, I would, in my judgment, recommend that they install activating sludge treatment.

MR. OEMING: This is what we are talking about then specifically?

MR. HARLOW: Yes.

MR. OEMING: Some type of activated sludge treatment?

MR. HARLOW: In the desired goals, I think this would probably be the best process.

MR. POSTON: You didn't make a specific study on this matter, did you?

MR. HARLOW: No, we did not recommend the type of secondary treatment.

MR. STEIN: I understand what you mean, Mr. Oeming, but I think this may be a crucial point. Let's see if I understand the report, so that we can move ahead with this.

As I get this, what we are largely interested in in any pollution control operation is the quality of the waters that are going to be used. You have from 1 to 7, talking about suspended solids, settleable solids, ammonia concentrations, phenol, oil, biochemical oxygen demand, and bacterial densities.

What you have indicated is that if this is achieved, then you feel that the water quality will be such that we will have a maximum number of water uses; isn't that correct?

MR. HARLOW: Not necessarily though, because in the ones you listed there, I don't believe you mentioned the phosphate problem.

MR. STEIN: You didn't say that.

MR. HARLOW: No specific recommendation for that was made.

MR. STEIN: All right. It wasn't in your list anyway, but that is a real good point and I am glad you brought it up, because it should be included, plus a control of phosphates.

If I understand it, you believe that this type of control would give an adequate water quality. This is one set of recommendations.

Now your judgment here as an engineer is that secondary treatment, using activated sludge, would be probably the best way of achieving that?

MR. HARLOW: Yes.

MR. STEIN: The point is, though, if this were achieved by secondary treatment or its equivalent, it doesn't really make much difference to a water pollution control official, as long as the desired results come about; is that correct?

MR. HARLOW: As long as we are abating pollution, any way you go about getting it, I'm for it.

MR. STEIN: Right. All right.

MR. HARLOW: But in my judgment, I strongly think that the way to do it here is with secondary treatment.

MR. STEIN: Absolutely. I want to make that distinction and get the recommendation, because I think if you thought the way to do it was secondary treatment and you didn't put that forward, you would not be carrying out your functions as the investigator and the expert.

But I want to make the point that, as I see it, this breaks into two parts, one being the recommendation of what they think the water quality is, and the second is their judgment on how to achieve it.

MR. OEMING: Well, I get your point, Mr. Stein. All I am asking for is their judgment, the practicalities of using one type of secondary treatment versus another.

Secondary treatment means a lot of different things to different people, and certainly in recommending secondary treatment, they must have had something in their minds here to do this job.

MR. STEIN: Are you people both in agreement that you are talking in terms of secondary treatment meaning activated sludge biological treatment?

MR. VAUGHAN: Yes, we are.

MR. STEIN: Does that clarify it?

MR. OEMING: Yes. Now, going back to these specific objectives, we have cleared up this matter of treatment now.

Are these specific effluent objectives based on observed and known conditions in the receiving waters which can be attributed quantitatively to each of the waste sources for which specific limitations on effluent quality are recommended?

Do you want to answer that question, and then I have some other questions?

MR. VAUGHAN: Yes. In most cases, yes.

MR. OEMING: What method was used to develop the specific limitations recommended?

MR. VAUGHAN: Well, they varied. There are two general ways though.

MR. OEMING: Aside from coliforms, because we have discussed that.

MR. VAUGHAN: Yes. In some cases we found a certain quantitative amount above and below waste sources. Then we equated the amount of waste constituents in the outfalls, and then computed a reduction that would allow better water use. In other cases --

MR. STEIN: I'm sorry; I think you should try that again. Maybe Mr. Oeming understood you, but for the record I am not sure that that is quite clear.

MR. VAUGHAN: All right. We examined, of course, many waste constituents. There is a certain amount, a quantity, pounds of this above sources of pollution.

We found then there were certain pounds below this source. We examined the waste sources, and we found there were a certain number of pounds in the waste sources.

We then computed the reduction in the waste sources that would be required to come up with what we felt was a maximum protection or pollution abatement downstream.

There were some cases, however, and you may be speaking of solids, I think, but that was for everything but this, where we were concerned with material that settles out, and when we found damages due to this settled material on the bottom, we examined all the wastes -- and this is 1.6 billion gallons of waste -- and found the settleable material and the suspended solids in this, and using the concept we think of economic feasibility of removal, we computed an amount that we thought that the plants could remove.

In this particular case, as an example, we figured in our recommendations they could remove about 95 percent of the settleable material, In this case, we deviated somewhat from the other procedure of effect on the river.

MR. OEMING: I missed that. You deviated in some respects?

MR. VAUGHAN: From the solids standpoint, yes. Our calculations were there.

MR. OEMING: I see. Well, there are two related questions here then. Could you tell us here, or at sometime in the future, what improvement in water quality may be expected by the conformance with such limitations? You have this in mind.

MR. VAUGHAN: Yes, we have it on how much improvement in certain of the constituents.

In the case of solids, instead of how much in the river, we figure that if our recommendations are followed, the large blanket of sludge deposits from this deleterious material would be greatly reduced, and I think totally eliminated.

MR. OEMING: How about the values, the water uses, interest and values that may be protected? Would you expect that they would be adequately protected if these recommendations are carried out?

MR. VAUGHAN: Yes, we would.

MR. OEMING: And there would be some improvement or extension of use also?

MR. VAUGHAN: Yes. Yes, we do.

MR. OEMING: There is a related question here -- you touched on it a little bit -- and this has to do with the solids situation.

You made the statement with respect to the increase in suspended solids and settleable solids that occurred in the Detroit River from the head to the mouth. What is the anticipated resultant increase from the head to the mouth if the recommendations made in this report are carried out?

I have another related question, but will you answer this first?

MR. VAUGHAN: I can go over it again, if you wish. We did not make this computation because the things that have been brought out at this meeting already, natural silt, complicates this issue.

We did, however, make our computations of the good that would come out of this, based upon the reduction in the wastes themselves, after we found that the settleable material from these wastes were blanketing the bottom of the lower Detroit River and Michigan Lake Erie.

MR. OEMING: The problem here that I fear is that any calculations that we have been able to make don't seem to tie up very well, and I am trying to clarify this as to what basis you had for selecting 35 mg/l as against double this value.

MR. VAUGHAN: Yes.

MR. OEMING: Because one computation you can make, which looks very reasonable, is that you are improving the quality of the river; that is, what you discharge is better from a suspended solids standpoint than what you took out.

MR. VAUGHAN: We are not against this, of course, but our point is that in this thing, you have two big variables. You've got inert silt, which has a different problem when it coats the bottom than oil and iron material and industrial and domestic waste sludge, and, secondly, this material, even both the suspended and the settleable, is in the process of changing as it goes down the river and settling to the bottom, and the velocities in the upper part of the river are such that a greater amount of this would be kept in suspension than in the lower part.

Because of these complications, we felt that it would be a better approach, after we found the damage in the lake and in the river, marinas, etc., to compute the maximum reduction we could get, based on economic feasibility, and that is how the 35 comes out. We feel that the plants can meet this.

MR. OEMING: Even though you might have the same settleable solids or suspended solids content after you get all through with this, you might still have the same suspended solids content at the mouth of the river as you have at the head of the river.

MR. VAUGHAN: Perhaps so, but we are trying to get rid of the deleterious industrial and domestic wastes which are interfering with water uses on the bottom, and this is our approach this way.

MR. OEMING: Do you have any questions?

MR. STEIN: No.

MR. OEMING: On Page 3, Paragraph 4, it is stated that the recommendations are designed to abate existing pollution, and also that it points out areas where additional improvement in water quality will aid in the prevention of future problems.

We are back to the same question again. The question arises as to which and what part of the recommendations are necessary to abate existing pollution, and what parts are made for the prevention of future problems?

MR. HARLOW: I think to clarify that point, as far as the future problems are concerned, we are considering the impending dissolved oxygen problem and the rising level of chlorides.

From other standpoints, there is interference occurring now.

MR. OEMING: The exceptions are between what now?

MR. HARLOW: Chlorides and dissolved oxygen.

MR. OEMING: I see.

MR. VAUGHAN: I might add we are still concerned about these two things.

MR. OEMING: On Page 7 of the Summary, it is stated that erratic control of coliform organisms noted at several Detroit River sewage treatment plants is not considered unusual when chlorination is practiced following primary sewage treatment.

It is not clear from the discussion in the Findings of bacteriological control at the Detroit, Wayne County plants how such a conclusion was derived. The statement in the Findings was that bacteriological control was excellent during the surveys, and the surveys indicate that effective bacterial control can be accomplished.

Similar statements were made relative to the Monroe Sewage Treatment Plant in the Lake Erie section of the report.

How do you resolve these two?

MR. VAUGHAN: I will be happy to clarify this point.

First of all, during the two and a half years in which we were involved in field work, we made several surveys of the plant with the State Health Department. These surveys lasted four days each, with continuous sampling.

It is during those surveys that I am talking about that bacterial control was excellent, and it was very excellent.

During the two and a half year period, and actually years before this, we examined the operating records of the actual plants, and found erratic control that we mentioned.

MR. OEMING: I see. Have you any questions?

MR. STEIN: No. I have a comment though, if you want it.

MR. OEMING: You're the Chairman.

MR. STEIN: Yes. This seems to be very typical to me. We generally do find pretty good control when the cops are there looking, but when we look at the records we find it a little more erratic.

As a matter of fact, I drive my automobile the same way.

(Laughter.)

MR. OEMING: On Page 7, the last paragraph, reference is made that "pollution endangers the users of the domestic water supplies from the Wyandotte intake and, at times, from the Southwest intake of the City of Detroit."

I think you modified this yesterday, and I want to clear this up for sure. You had in the original report "in the event of a breakdown in the water treatment facilities."

First of all, did you modify this in the report?

MR. VAUGHAN: Well, we didn't read it in the report. We thought this was probably obvious.

I think there could be some misunderstanding if your next question is going to be, "What do you mean by a breakdown?"

MR. OEMING: You are anticipating my question.

MR. VAUGHAN: Go ahead. I'm sorry.

We did modify this to avoid just saying something we thought was obvious.

MR. OEMING: That is, at any time?

MR. VAUGHAN: Some irregularity, or something.

MR. OEMING: Do you know from your examination of the records at these plants, at these intakes -- I realize that the Southwest is fairly recent.

MR. VAUGHAN: Yes.

MR. OEMING: But Wyandotte has been there many years. Do you know of any specific breakdowns or any case in which inadequate water was pumped out of the system?

MR. VAUGHAN: No, I do not, and we have looked.

MR. OEMING: Any comments?

MR. STEIN: No. Do you have any?

MR. POSTON: I have a comment.

I heard this item come up about changes in the report, and yesterday you made comment about changes in the report.

I would like to ask Mr. Vaughan: Were there changes in the report yesterday as read? What is the situation with regard to that?

MR. VAUGHAN: Well, actually the majority of the changes -- we designed a written report, or made an oral presentation in a somewhat different manner than it is outlined there, to what we hoped made a more palatable presentation, one that could be listened to by the audience a little better.

We feel, with one or two exceptions, there really isn't any change in the report. We did add a little bit on one paragraph, and that has been given for the record.

MR. HARLOW: As far as the recommendations were concerned, the recommendations were only shifted around for ease of reading, and there was not any change in content.

The one thing that was omitted yesterday when I was reading, on Page 31, or the summary of the recommendations, Mr. Vaughan thought I was going to give it, and I thought he was going to give it.

MR. STEIN: Let me make this clear, to be specific.

In many of the industries, Mr. Harlow, as I understood it, omitted reading over and over again the reduction of wastes from suspended solids and settleable solids, but he covered that by a blanket statement at the beginning, to apply to all the industries, and I suspect that some of the people may have missed that. He did that in order to save time.

I always have these feelings about this. I am not sure these shortcuts do save time.

MR. OEMING: Page 8, Paragraph 7 -- do you have it?

MR. VAUGHAN: Yes.

MR. OEMING: It is stated that phenol concentrations in the waters and bottom muds of the Detroit River pose a threat to fish life.

I would like to know, in what way do phenol concentrations, in these muds and in the waters, pose a threat to fish life?

MR. VAUGHAN: Well, it may be poorly stated, Mr. Oeming. We meant the tainting of fish flesh.

MR. OEMING: And not a question --

MR. VAUGHAN: Of extinction.

MR. OEMING: -- of destruction or killing of fish?

MR. VAUGHAN: That's right.

MR. HARLOW: They are not at such a level that fish would be killed.

MR. OEMING: All right. On Page 8,

Paragraph 8, it is stated that deposits of sludge at the mouth of the river are primarily due to suspended and settleable solids in municipal and industrial waste discharged into the Rouge and the Detroit Rivers. The results of bottom material sampling is shown on Pages 215 through 220 in the Findings report.

MR. HARLOW: I think we just referred to those a minute ago.

MR. OEMING: The percentage of total volatile solids in bottom materials are 30.8 to mile point 25, and ranges as a mean between 8.7 and 6.6% Then there are some other figures for Lake Erie with 5.8 to 8.0%.

Is this the basis upon which you made the statement that you felt that these were primarily municipal and industrial waste sources?

MR. HARLOW: The basis that we made the statement has been that chart that I just referred to from the Findings on Page 220, that where we found the deposits we characterized them as of an oily organic nature, or sometimes they were characterized as an ooze, and this was material that was causing the interference.

MR. OEMING: I see. It is not solely

on the basis of volatile content of those sludges?

MR. HARLOW: No, it is not. This is one determination that was made, though, the volatile matter, but it was just one of the many that we based our conclusions on.

MR. OEMING: On Page 10, Paragraph 4, under "Iron," it is stated that iron concentrations should not exceed 0.3 mg/1 to prevent interference with municipal and industrial water supply, and to protect fish and wildlife.

As I understand it, 0.3 mg/1 represents the recommended limits for drinking water?

MR. VAUGHAN: That is correct.

MR. HARLOW: Yes.

MR. OEMING: In the Public Health Service drinking water standards?

MR. STEIN: Yes.

MR. OEMING: Well, this isn't the point, the point being that I am unable to find any information which would indicate that iron at this concentration interferes with fish and wildlife.

MR. VAUGHAN: No, I don't think so either. If you want to keep it just to that, we feel about

1 ppm for fish alone, but 0.3 ppm will protect both water uses.

MR. OEMING: I see, so there is some modification here that ought to be made?

MR. **VAUGHAN**: If you wish to distinguish between the two.

MR. STEIN: It is a literary difference.

By the way, and this is a good point, as I understand Mr. Vaughan, he says if we have 0.3 ppm, you are going to prevent interference with municipal and industrial water supplies, and also will protect fish and wildlife, although fish life could stand up to 0.1?

MR. VAUGHAN: No, one part.

MR. STEIN: You understand if you get 0.3, you automatically protect the fish?

MR. OEMING: I understand this, but I wanted to clear up the point. Is 0.3 necessary for the protection of fish and aquatic life? Should this be the usage that we are trying to protect?

You see, Mr. Stein, in the report there are recommendations made where water supplies are involved.

MR. STEIN: I see.

MR. OEMING: And where water supplies are not involved.

MR. STEIN: I understand that.

I think this is a semantic problem, and in reading this, certainly you should get the other view.

I think what Mr. Vaughan is saying is that he took the 0.3 figure to get the most sensitive use to be protected. That sensitive use was municipal water supply. He also thought that these figures would protect fish life.

It is obvious if fish could stand more than three times this amount, that if we got down to protect municipal water supply, the concentrations would be so low that they would protect fish life.

I think the clarification is well taken and in order. It was a little ambiguous from here. I think this is just a matter of stating it, rather than an allegation that you need 0.3 to protect fish life.

MR. OEMING: I think the point has been cleared up. I don't know what your reasoning is, but the point itself is clear before you got the reasoning out.

MR. STEIN: Well, that's fine, as long as it is clear to you.

MR. OEMING: On Page 10, Paragraph 8, under "Nitrogen," the report states that undesirable blooms can be expected to occur at .3 mg/1. Page 153 of the Findings stated that blooms can be expected to occur at 0.3.

MR. VAUGHAN: It is a typographical error.

MR. OEMING: It should be what?

MR. HARLOW: .3.

MR. OEMING: .3, all right.

I would like to clear up a point on Page 20, Paragraph 2, where it is stated that the waters of Lake Erie are polluted by excessive concentration of a number of constituents, including suspended solids.

We want to talk about suspended solids here. Would your designation of this area carrying excessive solids include natural growths of plankton, algae, and this material?

MR. HARLOW: Yes. In the tests for suspended solids especially as occurred in the Lake waters, some of these solids are microscopic organisms.

MR. OEMING: Would you have any idea about

MR. OEMING: And where water supplies are not involved.

MR. STEIN: I understand that.

I think this is a semantic problem, and in reading this, certainly you should get the other view.

I think what Mr. Vaughan is saying is that he took the 0.3 figure to get the most sensitive use to be protected. That sensitive use was municipal water supply. He also thought that these figures would protect fish life.

It is obvious if fish could stand more than three times this amount, that if we got down to protect municipal water supply, the concentrations would be so low that they would protect fish life.

I think the clarification is well taken and in order. It was a little ambiguous from here. I think this is just a matter of stating it, rather than an allegation that you need 0.3 to protect fish life.

MR. OEMING: I think the point has been cleared up. I don't know what your reasoning is, but the point itself is clear before you got the reasoning out.

MR. STEIN: Well, that's fine, as long as it is clear to you.

MR. OEMING: On Page 10, Paragraph 8, under "Nitrogen," the report states that undesirable blooms can be expected to occur at .3 mg/1. Page 153 of the Findings stated that blooms can be expected to occur at 0.3.

MR. VAUGHAN: It is a typographical error.

MR. OEMING: It should be what?

MR. HARLOW: .3.

MR. OEMING: .3, all right.

I would like to clear up a point on Page 20, Paragraph 2, where it is stated that the waters of Lake Erie are polluted by excessive concentration of a number of constituents, including suspended solids.

We want to talk about suspended solids here. Would your designation of this area carrying excessive solids include natural growths of plankton, algae, and this material?

MR. HARLOW: Yes. In the tests for suspended solids especially as occurred in the Lake waters, some of these solids are microscopic organisms.

MR. OEMING: Would you have any idea about the relative proportion of the solids out here that are plankton and algae, and that are of industrial origin or sewage origin indirectly?

MR. HARLOW: No, I would not.

MR. OEMING: You didn't try to differentiate this?

MR. HARLOW: We didn't differentiate, in the suspended solids test, between what type of suspended solids these were.

MR. OEMING: Any questions?

MR. STEIN: No. I do have a comment here again on the general law on this subject, that, generally speaking, where you have a substantial contribution to a pollution situation, even though your contribution in itself will not create a pollution situation, where it combines with other things in the river and creates one, you would be considered to be a contributor.

MR. OEMING: I don't believe that is the point, Mr. Stein, as I see it.

MR. STEIN: I know.

MR. OEMING: The point I am trying to clarify is that people who are attending this conference and are aware of what is going on here have a right to expect certain things, and I don't want anybody to be misled that by taking care of suspended solids of an industrial origin, they are going to make a crystal clear lake out of Lake Erie.

There are still plankton and algae there, and they will probably be there, and there will be suspended solids in the lake.

MR. STEIN: Certainly. Sir, I fully sympathize with you on this. This is the problem we are facing constantly.

I think there are two things we have here, that if suspended solids or any other material exists in an area and you are adding more solids to it, you may have a real high solids problem. By dealing with the man-made pollution, you may be alleviating the problem, but you are not coming back to a crystal clear water. We have that over and over and over in our field.

If you will just give me one second, one of the problems that we have now is this. We are practically completed with our cleanup job as far as the pollution case on the Potomac River is concerned. What we have is secondary treatment with chlorination.

During the recreation season, we have

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worked out an alleviation of the stormwater overflows, and so forth and so on.

The people want to know when they can go swimming in the Potomac River. Bacteriologically, by next year it might be safe. There is so much silt coming down that river, and we told them that at the beginning, that we do not consider it safe to go swimming in the Potomac, because if a guard or anyone else would have to look for anyone in that murky water, they couldn't find him.

Secondly, aesthetically, you are probably going to be dirtier when you come out than when you went in, and people don't want that anywhere in this country.

But the point is, when we are talking about pollution control, I think the people should be aware that when we are dealing with corrective measures, we can only do with these measures what we can do with them, and get this done.

One more point. When we were at the meeting in Chicago that I talked about several weeks ago, several of the conservationists got very irritated at one point, because I think they misunderstood the point.

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We were talking about controlling the pollutants, and they talked about ailwives dying by the millions in the lake. When we made it clear that we didn't know why the ailwives died, and that if we cleared up the pollution we could give them no assurance that they wouldn't die in the future, they got very excited.

The point was, after they recognized what we were saying, that these are the limitations we have in the field, they realized that the end pollution control measures can just deal with the discharges that are controlled and the effects of these discharges. Effects on water quality from other sources are not going to be touched one wit by stuff we don't know about and stuff we can't handle.

Thank you.

MR. OEMING: On Page 21, Paragraph 6, under the subject of "Chlorides," I think you have stated that chlorides is a problem in the future and there is no problem presently?

MR. VAUGHAN: Yes.

MR. OEMING: I just want to pursue this a little further with respect to the Monroe water intake.

The statement is made that the present levels do not interfere with water use at the Monroe water intake, but that the year by year increase is noted as a warning of future problems. I think you are basing this on information shown in a figure on Page 32 of the Findings.

I wonder how clear a picture this is to you?

MR. VAUGHAN: This particular one, if we had used that alone, it might have been difficult to tie that in.

It is not shown here, but we took the same data that made this particular graph, and plotted an average for the year, the whole average for the year, for four years in a row, and noted the gradual uptake from the low 30's ppm to, I think, 39 or 40 or something like that over the time, as a whole year.

MR. OEMING: Have you been able to attribute this solely to industrial use of processing of brines in the chemical industry, or is there some other factor involved?

My experience here is that the processing of brines has been fairly stable over the years, and I am trying to get at this problem of increase. I am concerned too, but, I mean, what do we do here?

MR. VAUGHAN: Well, there are two things in the figure in the book.

You will notice that the winter months have a higher average chloride value. This would indicate the possibility of salt from streets affecting this, so that it could be in addition. This could be caused not only by industrial waste discharge, but also salt washing off the streets. This is very probable.

I would like to mention that other writers have indicated an upward trend, a somewhat sudden upward trend in the lake, in chloride concentration in the lake over the last few years, as well as just in this area.

MR. OEMING: This, however, you haven't been able to evaluate?

MR. VAUGHAN: No, we didn't.

MR. STEIN: This was the one area, in the chlorides, where you really are just pointing with concern, without a recommendation of what can be done; is that right?

MR. VAUGHAN: That is correct.

MR. STEIN: All right.

MR. HARLOW: Mr. Oeming, I might point out on Page 21 of the Findings, it shows that in 1960, the average --

MR. OEMING: I'm sorry, Mr. Harlow. I missed the first part.

MR. HARLOW: On Page 21 of the Findings --

MR. OEMING: Yes?

MR. HARLOW: It does show that the average chloride level at the Monroe water intake for the entire year was 30 mg/1, and in 1962 this value increased to an average of 40 mg/1.

MR. OEMING: The highs were in the spring, and the lower levels in the summer.

MR. VAUGHAN: That's right. That is why we put the full record in the report.

MR. OEMING: Would you tell me what the Public Health Service drinking water standards are for chloride?

MR. VAUGHAN: 250 mg/1.

MR. OEMING: What are the fish limitations for chloride?

MR. VAUGHAN: I know of none.

MR. OEMING: I say the fish that we have in these waters here.

MR. VAUGHAN: I don't know of any. Specifically, I would guess somewhat higher than that. If you want expert testimony, we can get it.

MR. OEMING: Well, let's get at that here.

MR. STEIN: Mr. Mackenthun.

MR. MACKENTHUN: As more or less of a guess, I would say 3,000. I don't have the data right here.

MR. OEMING: That is for the kind of fish we have here?

MR. MACKENTHUN: Roughly, yes.

MR. OEMING: 3,000 mg/1?

MR. MACKENTHUN: Yes.

MR. OEMING: I think you found at the maximum, how much? 69 parts of chloride?

MR..HARLOW: In the Trenton Channel, yes, I did, of the Detroit River.

MR..OEMING: Yes, and I think your report stated that you found no one who complained about this, or had any problem with them?

MR. HARLOW: We heard several casual complaints about the chlorides, but nothing serious.

MR. STEIN: 40?

MR. OEMING: 69.

MR. STEIN: Oh. Do you mind if I ask?

This is the one question that I had, and as long as we brought this up, let me ask it. You said there is a problem possibly of industrial water supply. By the question, no one would substantiate the claim?

MR. VAUGHAN: That is correct. We think at this level some of the industries should be having troubles.

MR. STEIN: This is the point. This is an opinion judgment of yours?

MR. VAUGHAN: That is right.

MR. STEIN: That at 40, certain industrial water supplies should be having trouble?

MR. VAUGHAN: Yes.

MR. HARLOW: We did receive several unofficial reports that they were having trouble, but nothing official.

MR. STEIN: All right.

MR. OEMING: On Page 22, Paragraph 6, it is noted that Lake Erie contains excessive concentrations of organic nitrogen and soluble phosphates.

Maybe you have answered this question, but what do you consider levels that are not excessive?

MR. VAUGHAN: Well, that is a negative way of putting it, I think. I would rather see them low, much lower than the points that would cause stream damage.

If you want to say what levels we consider excessive or dangerous, this way, we would say .3 mg/1 of inorganic nitrogen and .015 mg/1 soluble phosphate.

MR. OEMING: Well, I think my concern, Mr. Vaughan is that if you came into this area in, let's say, five years and the levels were at this level, would this still be subject to the statement that the levels are excessive?

MR. VAUGHAN: If it was below this now?

MR. OEMING: If it were at this .3 and this .015.

MR. VAUGHAN: We would not say they were excessive. We would hope that they would be lower than that, but, in answer to your question, we would say that they would not be excessive.

MR. OEMING: They would not be excessive?

MR. VAUGHAN: That's right.

MR. OEMING: All right.

MR. HARLOW: If they were at this level.

MR. OEMING: Yes.

MR. VAUGHAN: Or below it.

MR. OEMING: At or below it.

MR. HARLOW: If it were below -- I am not sure, but I think there has been work done on this, and Mr. Mackenthun is certainly better qualified to speak on this than I am, but I don't think this level is a hard and fast level. The indications are that --

MR. OEMING: I think both of you haven't gotten together here. When you say that something is excessive --

MR. STEIN: We didn't hurt you.

MR. OEMING: No.

MR. STEIN: But obviously the questions have been well prepared.

(Laughter.)

MR. OEMING: Let me start over. When you say that something is excessive, you must have in your mind something that is not excessive.

I think that whoever gets into these programs, including you people, are going to have to face up to the question, well, what is not excessive when you say that something is now excessive?

MR. HARLOW: Maybe the fact is the word

"excessive" here is misued, and all we are trying to say is that from the literature available, that if the level gets above, say, .015 mg/l phosphate, as phospherus, that you can expect to trigger the algae rate.

MR. VAUGHAN: And the nitrogen too.

MR. HARLOW: And if you get below this, this trigger action is minimized.

MR. OEMING: I guess this is all right.

MR. VAUGHAN: We will be happy to get Mr. Mackenthun up, if you want further clarification on it.

MR. STEIN: No. By the way, this is one of the most important problems we have, and I think this is a problem that we are one of the outposts of the professionals in the field. At least, the theory, as I understand it now, and I hope you will check me on this, is that in dealing with eutrophication or the aging process of the lake, the key point now is that phosphate and phospherus discharge or level which sets off a trigger mechanism allows the algal and other growth to make use of the nitrogen available. This begins a pattern of changing the biota of the lake.

The notion is that if the phospherus or the phosphate level is kept lower, this trigger mechanism won't take place. The triggering won't take place and the phosphate seems to be the triggering agent.

What we are all going to have to do is device some kind of method, and we are dealing with a relatively new field, where we can control this if we are going to protect the Great Lakes.

I spoke to your Chief of Technical Services. He has the notion that in dealing with municipal wastes, given secondary treatment and perhaps a precipitation process, that we can reduce phosphates below about 90 percent of what comes into the municipal treatment plant raw. He would think that would be a reasonably good reduction.

As we know, there is research going on now which possibly might give us a better reduction, but the point is if we can get it down to that level, at least as I understand it, it is believed that a significant measure of protection to the Great Lakes would be given.

According to our people, and I went over this very carefully, in preparing the report they said that if we ignored the phosphate problem in dealing with the situation on the Detroit River, we would not be dealing with one of the major problems we had here, and not be dealing with really the long range problem of protecting the lake, and just be dealing with immediate localized problems.

This, as far as I understand it, is the view of the scientists.

Is this substantially correct?

MR. VAUGHAN: Yes, it is.

MR. HARLOW: That's right.

MR. POSTON: 80 percent removal of phosphate was with secondary treatment, without any chemical treatment or without any coagulation or special treatment in addition; is that right?

MR. STEIN: Wait just one moment.

Again I will state it on the record, because if I am wrong, I want to be corrected on the record.

As I understand this, there have been just a few analyses of what secondary treatment does to phosphate removal. We have had analyses on phosphate removal remaining with secondary treatment processes, and they varied -- not all of them are the same -- ranging from about 30 percent or 35 percent over 80 percent, and they are not only specifics in the same city. In some large cities we have two secondary treatment plants, one being very close and I would not like to identify it, one getting about a 35 percent removal of phosphates with secondary treatment in one plant, and in another plant over 75 and 80 percent removal of phosphates.

In other words, the removal of these things is not presumably a defined refined operation in secondary treatment.

However, we do know that at Hanford, in removing the phosphates there because we had to, because this contained a radioactive substance, -- what was it, Phospherus 236? Is that right?

MR. VAUGHAN: I am not sure.

MR. HARLOW: Phospherus 32.

MR. STEIN: They just had to pull the phosphates out. An Allen Process was developed which precipitated the phosphates, and this worked very, very effectively at a relatively low cost.

The theory now, again as I understand it, is if you are lucky and the secondary treatment plant works and removes 80 percent of the phosphates, we won't have to do any more. If it doesn't, and you run into the 35 percent level, or you have primary treatment, or you have phosphates you have to get rid of, you may have to go to some kind of precipitation process in addition.

MR. VAUGHAN: Tertiary treatment.

MR. STEIN: Tertiary treatment, right.

MR. POSTON: There is a very learned chemical discussion, Mr. Chairman. I want to add here that some of the phosphate problems occur, because in their treatment plants, where they use separate sludge digestion and the phosphate digestion process is thrown back into the solution, when they become dissolved, they in turn are flushed on out into the treatment process again, into the effluent in this dissolved form, and, as a result, are not removed.

I think a burning of activated sludge in this activated sludge process will provide much higher degrees of removal of phosphates, up to this 80 percent, quite readily, whereas with separate sludge disgestion and drying, you lose much of the phosphate content back into the sewage.

MR. STEIN: We will at this point take a recess for ten minutes, and resume promptly.

(A short recess was taken.)

MR. STEIN: May we reconvene?

Mr. Oeming.

MR. OEMING: Mr. Chairman, when we recessed, we were on the subject of eutrophication. Personally, there is no one more concerned with eutrophication of Lake Erie and the other lakes than I am.

I think it is important, within the present state of the knowledge, that we try to clear up some of the questions and enlighten the Conferees, as well as other people on this subject.

The only question I want to pose here is, is the present state of the art such, of the knowledge such, with respect to eutrophication, that by removing, let us say, anywhere from 30 to 80 percent of the phosphates, we can expect a commensurate reduction or improvement in the eutrophication rate by any measurable amount? Are we at such a stage that we know this now?

MR. VAUGHAN: I would like to make one comment, and then call on Mr. Mackenthun, I think, who is better qualified.

MR. OEMING: All right.

MR. VAUGHAN: To quote Mr. Mackenthun on this, we feel if our recommendations are carried out that the phosphate and nitrogen levels in the lake would go down within these acceptable limits.

With that, I would like to ask for a little help from Mr. Mackenthun to answer your question.

MR. OEMING: All right. Did you get my question, Mr. Mackenthun?

MR. MACKENTHUN: Yes, I think so. You are referring to specific numbers, both in reduction of nutrient input and reduction of algal population; is this correct?

MR. OEMING: Well, not specific numbers. I am just dealing with this in a broad sense. That is, if you remove, let us say, 50 percent of the nutrients that are going into a lake now, is there any way to tell what commensurate improvement you would get in the lake by that amount? Not specific numbers. We have talked about that.

MR. MACKENTHUN: By removing the fertilizing materials that enter a body of water, it could be expected that there would be a reduction in the amount of growth which would result therefrom, principally algal growth which we are considering.

MR. OEMING: But it is merely some measure -- there would be some reduction, but there is no way to say --

MR. MACKENTHUN: There is no way at the present time to put a percentage figure on the amount that may be reduced.

There have been reported in the literature very few figures on the production of algae from a given amount of phospherus, for example. The figures that I am familiar with that have been reported are from laboratory experiments or from sewage stabilization ponds, none from the lake environment at the present time.

MR.OEMING: And particularly the Great Lakes is still in a stage, is it, of investigation and study, which would perhaps lead, at some future time, to some rationalization here?

MR. MACKENTHUN: Well, the critical values which have been discussed here by Mr. Vaughan and Mr. Harlow are the best judgment of the profession at the present time. That critical value of .015 mg/1 of phospherus is a point above which one might expect algal growths of a nuisance state to develop.

This critical value was originally proposed as occurring at the time of the spring overturn in a lake, or at the time of beginning spring growth. The reason for this is that it is a soluble phospherus value, and this is the time when soluble phospherus would be expected to be at the highest concentration in the water.

MR. OEMING: Just one more question. You subscribe to this value for phospherus as being a ceiling that would do some real good here in Lake Erie?

MR. MACKENTHUN: Yes, as a soluble phospherus value. In actuality, some types of algae may very well grow at a much lower value. This is a value which is attributed as a critical level for nuisance blooms.

MR. OEMING: I think that is all.

MR. STEIN: Thank you, Mr. Mackenthun.

MR. OEMING: My next question has to do with this also, and this is the proportionate amounts of nutrients that reach the lake by natural sources and which are from man-made sources.

Would you know what the overall reduction in nutrients would be by taking out the nutrients that you can get at here in sewage treatment?

Let's assume for a minute, for further explanation of the question, that you could remove 70 percent of the nutrients from the sources that you have mentioned. I think there are principally two.

How would that compare with the amounts of nutrients that come from sources that are not subject to control at the present time?

MR. VAUGHAN: All right. First of all, as far as your determination of the waters going into the Michigan waters of Lake Erie, the Detroit River and the Raisin River, we added the phosphates up.

Can we restrict our discussion to phosphates, since there are mainly two sources?

MR. OEMING: That is all right.

MR. VAUGHAN: Well, from phosphates there are two major sources which represent, in our best judgment, about over 90 percent of all the phosphates going into that. This is from the rivers. Presumably some could come in from other sources we don't know about, but we think that the vast majority of this comes from these two sources, and if you can take, say, about 90 percent comes from these two sources, and 9 times 7 is 63 percent -- I am just making that now.

MR. OEMING: Then I guess I have to ask

the question in a different way.

What I am getting at is, if these sources were removed or reduced by these amounts, is there a likelihood that we can reach these levels of .015 that you have suggested here?

MR. VAUGHAN: We think they will, yes -- not immediately, but within a few years.

MR. OEMING: Your computations would indicate that the concentrations would result in this removal?

MR. VAUGHAN: The concentrations would, yes.

MR. OEMING: That you are seeking in the lake?

MR. VAUGHAN: Yes, that's right.

MR. OEMING: Any comments or questions, Mr. Stein?

MR. STEIN: No.

MR. OEMING: There has been a change in the situation in the Sterling State Park area. There is the Ford intake at the mouth of Sandy Creek, or has been up until recently. This intake has been changed now with a direct intake to the lake.

What effect do you expect this might have on the bacteriological quality of the northern edge of Sterling State Park?

MR. HARLOW: If I understand and get the situation, Sandy Creek discharges into the lake very close to Sterling State Park.

MR. OEMING: At the northern edge.

MR. HARLOW: And I believe the creek does pass through kind of an inland lagoon area.

MR. OEMING: That is correct.

MR. HARLOW: Ford Motor Company, according to our studies, took water out of this creek, approximately 200 cubic feet per second, and used it as a process water and cooling water, but now they go into the lake to get their water and do not take it from this creek.

MR. OEMING: That is correct.

MR. HARLOW: Our results show that this creek does carry at times heavily polluted waste material, and I would suspect now that we are not taking out 200 cfs from this creek, that the additional flow into the lake would probably, from the standpoint of the effect that Sandy Creek would have upon it, increase the likelihood of a deleterious condition at Sterling State Park.

MR. OEMING: In other words, we have a more intense problem today from Sandy Creek than we had at the time you made the survey; is that correct?

MR. HARLOW: Yes. As far as the contribution from Sandy Creek was concerned; I think our results show that the major problem from the Sterling State Park standpoint is the Raisin River.

MR. STEIN: Could I ask this question?

As I understand your report, do you believe that if your recommendations are followed at Sandy Creek and Raisin River that Sterling State Park could be opened for swimming again?

MR. VAUGHAN: Yes.

MR. OEMING: In the report you have dealt with two municipal sewage treatment plants with respect to your suggested effluent restriction requirements. That is, the Detroit plant and the Wyandotte plant.

Do you intend that these would apply also to plants in Riverview and the new Trenton plant?

MR. VAUGHAN: Yes.

MR. OEMING: These have been built since you developed the report?

MR. VAUGHAN: That is correct, yes.

MR. OEMING: On Page 35, under Item 2, the recommended coliform density goal for the treatment plant effluent is the same 5,000, isn't it?

MR. VAUGHAN: Yes.

MR. OEMING: 5,000. What is the goal for an acceptable raw water supply source under the Public Health Service water supply recommendation?

MR. VAUGHAN: To my understanding, the Public Health Service has a recommendation for raw water supplies, which is 5,000 per 100 millimeters for raw water.

MR. OEMING: I see.

MR. VAUGHAN: That will later be treated.

MR. OEMING: On Page 35, under the subject "Wayne County Sewage Treatment Plant, Wyandotte," in view of the statement made regarding the fact that the survey performed at this plant was made on the original facilities and does not reflect the recent enlargement, I wonder what information was collected in the study.

Does the information represent the actual use of the Detroit River for waste disposal at the time of the study, or only represent the quantity of waste that was discharged through the waste treatment plant?

MR. HARLOW: Well, as you know, during our study and, I believe, for some time before that, and until they built the new plant or added the additions, at the Wayne County Treatment Plant at Wyandotte it was necessary for them to bypass, I understand, large quantities of untreated waste, because of the inability of the plant to handle this large volume.

Our study was only made on the waste material that passed through the plant, and did not include that bypassed material. So far as the system was concerned, there was more of a burden upon the river than our results would show.

MR. OEMING: Do you have any questions, Mr. Stein?

MR. STEIN: No. You're doing fine.

MR. OEMING: On Page 50, under "Recommendations for Monroe Sewage Treatment Plant," I fail to find any recommended limits for suspended solids such as you have recommended for other treatment plants.

Is this an omission, or did you intend to make it so?

MR. VAUGHAN: Actually, the operation at the Monroe plant is quite good. It is just barely over that at the present time, and we felt it was unnecessary to give them that kind of a recommendation. If they put in secondary treatment, they would certainly get it.

MR. OEMING: I wonder if you would clarify the assumption that might be drawn from a comparison of figures 1-V and 2-V?

MR. VAUGHAN: In the Findings?

MR. OEMING: Yes.

MR. HARLOW: 1-V and 2-V?

MR. OEMING: Yes.

MR. HARLOW: You mean the one on dry and wet coliform?

MR. OEMING: Yes. This refers to the dry and wet conditions where the geometric mean coliform concentration is 1,000 - 2,400 organisms per 100 mg/1 in the area west of Fighting Island.

MR. STEIN: What page is it on?

MR. HARLOW: It is opposite Page 132 of the Findings.

MR. STEIN: All right.

MR. OEMING: In clarifying this, I notice that at Station Detroit 17.4-W --

MR. HARLOW: Which figure are you referring to, Mr. Oeming? Are you referring to 1-V or 2-V?

MR. OEMING: Let me finish the question. Maybe this will clear it up.

In the reach between the international boundary and Fighting Island, the wet geometric mean coliform concentration is 2,400 or under and, in addition, the 14.6. Samples were not collected between a point 850 feet west of the international boundary and Fighting Island.

MR. VAUGHAN: I don't understand the question. I'm sorry.

MR. OEMING: Well, the question is, there is no zone on Figure 2-V where a geometric mean coliform concentration is 1,000 - 2,400 in the area west of Fighting Island.

MR. HARLOW: In referring to the range?

MR. OEMING: Yes.

MR. HARLOW: Are you saying there is no sampling station?

MR. OEMING: Yes.

MR. HARLOW: For this length of --

MR. OEMING: I wonder if the conclusion drawn was sufficient here, based on the fact that you didn't have samples in here?

MR. VAUGHAN: I see what you mean now.

MR. OEMING: Yes.

MR. HARLOW: What conclusion was drawn?

MR. OEMING: Between the dry and wet conditions. That is evaluating the dry and wet conditions here.

MR. VAUGHAN: Let me phrase this right. George and I, I think, are a little confused about this point.

MR. OEMING: I'm sorry.

MR. VAUGHAN: Do you mean because we have this whole map shaded as to condition of bacterial quality, but we don't have sampling stations?

MR. OEMING: Yes.

MR. VAUGHAN: That is true. We didn't take sampling stations at every place in the area. This is a finite map that reported actual sampling stations. This is, in our best judgment, the distribution of coliform organisms throughout the lake, based on the sampling stations that we took.

MR. OEMING: You skipped an area in here, and you felt this was adequate sampling?

MR. VAUGHAN: That is the best we could

do, that's right.

MR. OEMING: Any questions or comments?

MR. STEIN: When you get into this, all I can do is keep up with the charts and maps. I'm just happy there is a man who can go over that in this detail and find it.

(Laughter.)

MR. OEMING: On Page 281 in the Findings section, the statement refers to oxygen consuming materials added to the lake.

I wonder if the inference is correct that oxygen consuming materials are accumulative, and that an equilibrium condition has not been reached. Is this correct or incorrect?

MR. HARLOW: Didn't we kind of answer that earlier before when we stated --

MR. OEMING: These are oxygen consuming materials.

MR. HARLOW: We are talking about biochemical oxygen demand?

MR. OEMING: Yes. If you feel you have answered it, would you please repeat the answer?

MR. HARLOW: Well, there is now a present load of approximately this figure I have used, 4 million population equivalents being discharged into the lake from municipal sources and industrial sources to the river, and subsequently to the lake.

I feel that if this level is increased above the level now being discharged, that there will be oxygen problems from the biochemical oxygen demand taking this oxygen out of the water.

Is that what you were referring to?

MR. OEMING: Yes.

MR. HARLOW: When you referred to an equilibrium condition?

MR. OEMING: Yes.

MR. STEIN: I don't see where he talks about equilibrium.

MR. OEMING: I am talking about it. He doesn't talk about it, but the way it is stated, you might assume here that to add oxygen consuming materials to the lake is accumulative, and I don't think this is what he meant. I wanted to clarify the statement.

MR. VAUGHAN: What you say is possible, of course.

MR. OEMING: On Page 325, under the subject of "Vegetation"--

MR. HARLOW: 325?

MR. OEMING: Yes. There were abundant growths of two aquatic fauna, I guess, and it is stated that these growths "are not only undesirable from an aesthetic standpoint, but also interfere with boating by fouling propellors. Later in the season the vegetation dies and decomposes, accompanied by strong odors."

It is further stated, "The solutions to the problem include abatement of pollution from sources containing significant amounts of phosphorus and nitrogen compounds."

Now, this is in a wild fowl staging area, as you know, and all of us I think are concerned with the welfare of these waterfowl, and those growths are food and good habitat for the waterfowl.

I wonder how we resolve this question. If we try to protect the waterfowl and we cause trouble with the boats in the process, how do we get around this one?

MR. VAUGHAN: Well, that is, of course, a very legitimate question.

We realize both things you said are absolutely true. This may mean there is a pollution problem from one standpoint, and there is food for wildlife propagation which would stimulate this.

I don't know if I know a ready answer to this. We are pointing out that this pollution does occur, and perhaps even better minds than ours might have to come up with the answers to this, and it might be management of this problem or finding alternate solutions to the food. I don't know.

MR. OEMING: Well, I think this is a real critical problem.

MR. VAUGHAN: We recognize this.

MR. OEMING: Because, on the one hand, we perhaps ought to encourage these crops of vegetation down there and, on the other hand, it causes some injury to other uses, and I wondered if you had some answer to this one.

MR. VAUGHAN: No, we don't. I am sure this is not the only occasion where there has been a conflict between water uses that people have to mull over for quite some time.

MR. OEMING: Mr. Chairman, that concludes the questions that I would like to pose at this time.

I want to express my thanks and appreciation to Mr. Harlow and Mr. Vaughan for the frank and excellent way in which they have answered the questions. This has been very helpful to me, I know, and helpful to our commissioners who are here, in enlightening them on some of the unresolved questions that seemed, at least, to be such.

MR. STEIN: Yes. They also helped me and enlightened me.

On your last question here, I wonder if, while you are still up here, we couldn't resolve this.

If this is a waterfowl area and we have to provide food for the waterfowl, is a legitimate interest being interfered with when you talk about fouling propellors?

MR. VAUGHAN: In the same area, boating is practiced. Who makes this decision, I don't know, Mr. Stein.

MR. STEIN: Well, I don't know who makes the decision, but dealing with the waterfowl here, you know we do have a treaty with Canada on migratory birds, which I think was up before the Supreme Court at least once, and it seems to me the Supreme Court makes so many distinctions, and I think the treaty is kind of a ruling on this.

I would suspect, in this case, the lake

seems to be big enough, and if we have a wild fowl area, I think we should be able to agree among the Conferees that as a rule of thumb this probably is an area that is going to be preserved, unless there is some persuasive --

MR. OEMING: I wish you were more positive about that.

MR. STEIN: Unless there is some persuasive evidence to indicate that those boats have a right to be in there, should be in there and spin their propellors, we might not consider that an interference with a water use.

MR. VAUGHAN: We found this in many areas, including the wild fowl staging area. We found this in other areas as well.

MR. HARLOW: There is one other interference it does cause, and you can judge this from what I say about it, and that is that when these growths that the biologists had told me about decay and die, they also create an odor problem.

MR. STEIN: You know, I expect we have some Audubon Society and bird watchers in the audience, but I don't think that is very much uncharacteristic of a wildlife refuge or a wildlife area, where you are going to have vegetation supporting wildlife, and you are going to get that.

There is a question here on the balancing of usage. If this is a waterfowl area, you have to expect decaying of vegetation. You have to take these things as they come.

I guess Detroit, being what it is, takes the smell of gasoline with the automobile. When I was a boy, we used to take other smells when they used horses, and I think you have to take decaying vegetation if you have wild fowl.

MR. VAUGHAN: Yes, I would agree with that.

I would like to emphasize, in addition to these areas, we did find them in other parts, including people with property. The poor property owner is not happy with the vegetation.

MR. STEIN: That is another point.

MR. VAUGHAN: The two points are correct.

MR. STEIN: I think Mr. Oeming did point to this in the report, and that is a point of clarification.

I was thinking, unless something comes up, maybe the Conferees can agree that we could give the wild fowl their due in the area.

MR. HARLOW: I would like to point out, lest I am misunderstood, that I am also for doing all I can to protect the wild fowl.

MR. VAUGHAN: You don't want to be stoned.

(Laughter.)

MR. STEIN: At this time, we will recess for lunch.

We will reconvene at half past one.

(Whereupon, at 11:55 a.m., a luncheon recess was taken.)

AFTERNOON SESSION

1:30 P.M.

MR. STEIN: May we reconvene?

I would like to say this, and this is a little unusual. I see a man who came into the audience this morning, who has probably caught the eye of all the people at the front table, except Al, who is the stenographer, in this business of water pollution control, and he is one of the senior statesmen in the field, Mr. Oeming's predecessor in office.

I wonder if he would stand up, Milton P. Adams.

(Applause.)

MR. STEIN: Mr. Oeming, do you have another question?

MR. OEMING: Mr. Chairman, yes. With your permission, I would like to ask one more question of Mr. Mackenthun with respect to the eutrophication of the lake.

Mr. Mackenthun, if the deterioration in the quality of Lake Erie could be shown as a steadily descending line in water quality, what would you expect would happen in the direction of that line if we reached the objectives that have been mentioned in the report as for the concentration of phosphates?

To make it a little more specific, would you expect that this descending line of water quality would flatten out and remain flat, or would you expect a drop and then a steady increase in improvement in water quality?

MR. MACKENTHUN: As the concentration of phospherus from the inflowing water became less than the concentration in the receiving water, I would expect an improvement in the water quality to result, this improvement to be defined as a reduction in the algal mass.

To express it another way, there would be perhaps a short interval of a flat line, on your particular expression, followed by a line showing improved water quality.

MR. OEMING: You have put this in the frame of reference of a better quality of water coming out of the Detroit River than exists in the lake at the present time. Is that what you are --

MR. MACKENTHUN: In your particular question, when the quality of water entering the particular body of water has a phospherus concentration of a magnitude less than that within the receiving water, under those circumstances, the water quality within the receiving water would improve.

MR. OEMING: Well, ultimately you would have some stabilization, wouldn't you? The phospherus in the receiving water would be the same quality as what is coming out of the river?

MR. MACKENTHUN: That is right, and this would make for a flattening or a stabilization over a short period of time, following which there would be an improvement in the quality.

MR. OEMING: That is all.

MR. STEIN: Thank you.

MR. OEMING: Thank you very much, Mr. Mackenthun.

MR. STEIN: At this time, I would like to call on Mr. Oeming for the presentation of the Michigan report.

MR. OEMING: Mr. Chairman and fellow Conferees:

I have at the moment two statements to be made here, one by the Michigan Department of Conservation, and one jointly by the Water Resources Commission and Health Department.

As indicated by the Secretary's letter, the

State was given the opportunity to invite statements from agencies and from units of government, and so on, and I also extended an invitation to the Department of Economic Expansion. I don't know whether they are here, but at the end of the presentations I have, I would like to just call on them if they are here.

At this time, I would like to introduce Mr. Gerald Eddy to you, who represents Dr. MacMullan at this conference as an alternate, and he will present a statement on behalf of the Department of Conservation.

STATEMENT OF GERALD EDDY,
STATE GEOLOGIST, MICHIGAN
DEPARTMENT OF CONSERVATION

MR. EDDY: Mr. Chairman and Conferees:

I am presenting a statement prepared by Dr. MacMullan, Director of Conservation, on behalf of the Conservation Department. I am Gerald Eddy. I am the State Geologist with the State Department of Conservation.

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This meeting is an extension of a joint Federal-State conference on the pollution of the navigable waters of the Detroit River, Lake Erie, and their tributaries, held March 27 - 28, 1962.

The Michigan Department of Conservation submitted statements to that 1962 conference. This presentation is intended to bring those earlier statements up to date and to make additional comments in light of the recent published report of the U. S. Public Health Service Detroit River - Lake Erie Project.

The Detroit River and Lake Erie have great significance as natural resources. We would like to begin, therefore, by discussing briefly the resource characteristics of rivers and lakes in general.

A river is more than a conduit; a lake is more than a reservoir. A river is more than a pipe to bring us a substance - water - and more than a ditch to carry off materials we no longer want - used water and waste.

A lake is more than a tank to store and contain water and waste. Each lake and each stream is a natural phenomenon, of value in itself. Its ingredients are chemical, biological physical, and esthetic. They include plants, animals, matter in solution and suspension; all brought into association by the medium of water.

Because of this combination of characteristics, lakes and streams form a many-faceted resource. The utilization of any one facet can have profound influence upon each of the others. Each use can cause some hazard to the lake or stream, itself, if carried to excess.

No single use of a lake or stream poses so great a threat to all other values as the disposal of waste. We believe that the concept of disposing of wastes by committing them to lakes and streams ultimately must change. We recognize the enormous financial and economical implications of that statement; nevertheless, we are convinced that the other values of these water resources are such that the day will come when their use for waste disposal will cease, by popular demand.

The remainder of this statement will deal with three specific conservation aspects of water and its use: fish; waterfowl; and parks and recreation.

Gerald Eddy

By limiting our discussion to these, we do not mean to imply that they are the only values of water resources to be considered. We do insist that they are important values which, even if there were no other considerations, would justify the need to guarantee high water quality in the Detroit River and Lake Erie.

On the subject of fish:

Fisheries resources, both sport and commercial, are entirely dependent on water quality. Within the past 30 years, the fisheries resources in the Detroit River and Lake Erie have deteriorated rapidly. That deterioration is continuing. The desirable clean-water fish species formerly present are fast disappearing, and being replaced by less desirable, pollution-tolerant species.

The evidence is strong that the deterioration of fish resources in these waters has come about principally because of environmental changes resulting from pollution. These changes are complex and subtle, and have affected fish life in many ways. Perhaps the most important change is rapid eutrophic aging stimulated by nitrogen compounds and phosphates found in organic wastes. Nutritive enrichment provided by these wastes leads to oxygen depletion, temperature increases, turbidity,and interruption of the biological food chain. In addition, some chemical and industrial wastes contain toxicants directly harmful to fish.

Until quite recently, Lake Erie was the most productive of the Great Lakes in terms of useful fish. It continues to support a large fish population, but the composition of that population has changed drastically. The valued blue pike has disappeared; the lake herring and whitefish are almost gone. The walleye is in a precarious state. Of the desirable species, only the yellow perch remains abundant, and there are indications that even this tolerant and prolific species may be in trouble.

The new Lake Erie fish population is composed predominantly of species of little commercial value and of minor interest to sport fishermen, such as carp and sheepshead.

The situation in the Detroit River is similar to that in Lake Erie.

The fisheries of Lake Erie and the Detroit River unquestionably are deteriorating and can be saved only by an all-out effort to restore water quality to standards favorable to desirable fish.

Now, in the field of waterfowl:

This Department in 1962 pointed out that pollution in the Detroit River had claimed a heavy toll of ducks during the previous two decades. Of the several forms of pollution, oil discharges were the most serious to waterfowl.

It was further pointed out that a monitoring system initiated by the Water Resources Commission in March, 1962, was the best way to provide early detection of pollution and trace it to its source. It was stated that the monitoring system would be an effective deterrent to careless waste handling, especially if backed by strong enforcement of State laws.

Comparative figures for losses before and after establishment of this monitoring system are now available. From March, 1962, to the present, losses of ducks were significantly reduced below the levels of previous years. The record for the three years shows only one loss due to a specific accident, which did not involve oil. During the 12 years from 1948 to 1960, 12 separate serious losses occurred, which was before monitoring.

The reduction in losses appears to be a direct result of the monitoring system. Furthermore, significant decreases in oil discharges since 1962 have been noted in field inspections.

Thus, there have been some gains on this particular problem. Gratifying though these are, they are no cause for complacency. New and serious waterfowl losses could occur at any time. At the very least we will need to continue to maintain vigilant patrols and make frequent checks on discharge outlets. Vigorous enforcement remains essential.

In the field of parks and recreation:

The U. S. Public Health Service report on the Detroit River - Lake Erie project states:

"Restriction of recreational opportunities in Lake Erie and its Michigan tributaries may be the worst damage from pollution, inestimable in dollar figures. At beaches near the mouth of the Detroit River, any kind of water contact sports - even water skiing or boating - is hazardous. The beaches at Sterling State Park, in heavy demand by a metropolitan population of nearly four million (projected to reach 5½ million by 1980), have had to be posted as unsafe for swimming. The beaches, themselves are often offensive due to the washing ashore of rotting plant life and decomposing matter of sewage and industrial origin."

We can add nothing to that statement beyond detailing some of the effects of pollution on parks and other recreation facilities located in and along the Detroit River and Lake Erie.

Sterling, the only State park on the Michigan portion of Lake Erie, has been closed to swimming since 1961, owing to bacterial contamination of its 7,800-foot beach. Attendance at this park has dropped from 1,239,216 in 1951 to 319,500 in 1964, a decline of approximately 75 per cent. This drop occurred during years when most other State parks were overcrowded to the point that tens of thousands of would-be users were turned away annually.

Since March, 1962, we have spent about $500,000 for buildings, roads, water and sewage facilities, and other improvements at Sterling State Park in an effort to provide a badly needed major recreational facility for this heavily populated part of Michigan and for out-of-state visitors entering the State at its southeast gateway. Consideration has even been given to construction of an artificial swimming pool as a feeble substitute for the natural beach. This would be a shameful solution to a problem which should be solved by cleaning up the pollution which necessitates "no swimming" signs.

As the Public Health Service report points out, 26 out of the 31 miles of the Detroit River are unsafe for swimming, water skiing, and other water contact sports. Boaters and the more than 60 marinas in the Detroit River-western Lake Erie complex must contend with oil and sludge which not only cause direct damage to boats and docks, but also seriously detract from the recreational pleasures of boating.

As a conclusion:

The Public Health Service report asserts, "While there is some evidence that water quality is improving, because of increased water uses damages are increasing, and unless remedial action is taken immediately the usefulness of the water resources of the Detroit area may be destroyed completely by pollution."

That statement applies with special emphasis to the conservation-recreation values discussed in the previous sections of this statement. It is evident that the interests of fish, waterfowl, and recreation have not been adequately protected by past pollution definitions and water quality standards. There is in our minds a serious question whether new definitions and standards will be adequate unless the importance of these values is given first consideration.

The Detroit River and Lake Erie form part of a great metropolitan complex. This complex is growing, and it will continue to grow at an increasing pace, unless all the population projections are wrong. Along with this growth has come a recreation boom, that likewise is still gathering momentum.

The recreational potential of these two bodies of water is enormous. Given clean water--perhaps I should say cleaner water--they are capable of meeting the recreational needs of millions of people, while at the same time contributing to their economic prosperity and esthetic enjoyment.

Water that is fit for swimming, for sport-fishing, for pleasure-boating, for waterfowl resting places--water that is pleasing to the optic and to the olfactory nerves, necessarily will be water fit for all other uses as well. We suggest, then, that this criterion should be the guideline for the setting and enforcement of water quality standards in the Detroit River, Lake Erie, and their tributaries in the future.

MR. STEIN: Thank you, Mr. Eddy, for a very excellent statement.

Are there any comments, or questions?

MR. POSTON: I would like to have Mr. Eddy thank Dr. MacMullan for the very fine paper that he has given here, and I certainly appreciate these views. I think they outline very well the Department of Conservation's ideas.

MR. EDDY: Thank you.

MR. STEIN: Mr. Eddy, when you talk about whitefish, whenever I go to a restaurant in the midwest I always see Lake Superior whitefish on the menu.

Don't you have any whitefish in Lake Erie that you can serve?

MR. EDDY: Not for some time. The whitefish are coming back in Lake Huron and Lake Superior, but we are not very hopeful about our part of Lake Erie anyway.

MR. STEIN: Do you think if the lake is restored, we might have some Lake Erie whitefish?

MR. EDDY: A long time from now perhaps. I'm not too confident of it.

MR. STEIN: There is another point you made.

You said you are convinced that other values of the water resources are such that the day will come when their use for waste disposal will cease by popular demand. I never knew we were very popular.

(Laughter.)

Thank you. Mr. Oeming?

MR. OEMING: At this time I would like to call jointly on Mr. Purdy, Chief Engineer of the Water Resources Commission, and Mr. John Vogt, the Director of the Division of Engineering, Michigan Department of Health, to present a combined report.

I believe that the program here is for Mr. Purdy to commence, and then Mr. Vogt will make a presentation of some portion of it.

STATEMENT OF RALPH PURDY,
CHIEF ENGINEER, WATER RESOURCES COMMISSION
OF THE STATE OF MICHIGAN

MR. PURDY: I am Ralph Purdy, Chief Engineer of the Water Resources Commission.

Chairman Stein, Conferees, Commission members, and others in attendance here today:

This report up-dates information contained in the report "Water Pollution Control in River Basins of the Southeastern Michigan Region," presented by the State at the March, 1962, conference.

It delineates accomplishments in controlling pollution of the waters of the Detroit River and Michigan portion of Lake Erie. As in the original report the files and records of the Michigan Water Resources Commission and Michigan Department of Health are the sources of information contained herein and the employed staffs of both agencies collaborated in assembling the material and in preparing the report.

Chapter 1 of the State report at the first session outlines the statutory authority, policies, and procedures for the administration of the water pollution control function in Michigan, and we call the attention of the conferees to this section for such information. The State Highway Commissioner, member of the Water Resources Commission, has been replaced by a State Highway Director.

Michigan, through its state agencies, recognizes its obligation to protect and conserve its water resources as prescibed by statute. As pointed out in the earlier report to the conferees, every city, village, or township, having a sewer system, had either a sewage treatment plant of its own or contracts with another governmental unit for treatment of its collected wastes. It was shown that facilities and methods for treatment or control of the polluting constituents in process wastes are provided at virtually all industries. The Chairman, at the close of the first conference stated, "Whenever any foreign visitor came to Washington, they always asked us what is one of the better State programs to look at, and invariably we sent them to Michigan. I think that the record here, both the report that our Department prepared, and the report we got from the State, and others, indicates that this is so. I don't think that we could have developed the record and gotten so much data at a first session of a conference in practically any other area. At least, to my experience this has not been done, particularly in an area where we have as complicated and so sophisticated a situation as we have in the Detroit metropolitan area."

He further stated, "I think cognizance should be taken of the excellent work and programming of the Michigan State authorities; the fact that almost all the wastes in this area are being treated."

I wish to emphasize to the conferees that we are not at the beginning of a pollution abatement program in this area as in the case in many other areas in the United States. Many millions of dollars have been spent by Michigan municipalities and industries in the Detroit metropolitan area and Monroe area. Pollution has not been allowed to worsen and go unchecked. Water quality today is improved as compared to the past. This is shown by the present report of the Secretary of Health, Education, and Welfare, and also by reports of the International Joint Commission. We are looking today at what are the additional needs, over and above what has already been provided, to maintain satisfactory water quality for today's uses of the receiving waters and to provide guide lines for tomorrow.

The need for an investigation and appraisal of the discharges of waste water to the Detroit River and Michigan waters of Lake Erie was recognized by the Michigan Water Resources Commission and an outline of a proposed comprehensive study was prepared in 1961. The survey was to be undertaken and performed by the State. An alternate procedure was selected by former Governor Swainson and by letter dated December 5, 1961, asked, "In accordance with Section 8 of P.L. 660 as amended (P.L. 87-88) I request that you, as Secretary of Health, Education and Welfare; assist the State of Michigan to identify and recommend methods for correcting the sources of pollution going into the Detroit River and subsequently into Lake Erie."

The study has been completed by the Department of Health, Education, and Welfare with the staffs of the Michigan Water Resources Commission and Michigan Department of Health participating cooperatively in certain specific portions. The report written by the staff of the Department of Health, Education and Welfare was presented to the State some thirty days in advance of this conference. An essential element in the final determination of the effluent quality restrictions for wastes discharged to the Detroit River and Michigan waters of Lake Erie is the development of quantitative goals for desired water quality objectives to accommodate the various uses made of the receiving waters. Recommended quantitative goals or guidelines of desirable resultant river water quality are in the most part not stated in the report.

That completes the first section of my presentation.

MR. STEIN: Thank you very much. Are there any comments or questions?

MR. POSTON: I think not.

MR. STEIN: I have one, Mr. Purdy. As far as I understand the point developed by the Government investigators, it is that the development of effluent requirements by them, they believe, would result in a condition of water quality in the river which would protect health and welfare. I think this was the theory that they present, and, as I understand this, we always have to work back on the development of requirements in the River, but in order to tell a city or an industry what to do, we always have to work back to that.

Presumably the investigators have worked back to that point, and they believe that if this is accomplished, the quality of waters will be in reasonable shape to protect health and welfare.

MR. PURDY: Yes, Mr. Stein. This comment was put in so that, or at least, if these goals were stated, that at some later date the State could test the receiving waters and determine whether or not the various water uses were being protected.

You might test the effluent and find that the effluent is in compliance with the effluent restrictions; but if this does not provide the water quality necessary to protect the various uses, we then have not accomplished our job.

MR. STEIN: Mr. Purdy, I could not agree with you more; and I think Mr. Oeming and I see this eye-to-eye; but I do believe that the investigators here believe that in the existing state of discharges, if those effluents standards were met you would have a quality of water in your River which would protect health and welfare.

Now, this is the supposition, as I understand it in the presentation of the report, that these people made those effluent determinations; they kept constantly relating this to the effects that this would have on the Detroit River and on Lake Erie, and these waters at the point of use, and they believed that this would provide adequate protection from this view.

MR. OEMING: Mr. Chairman, and fellow conferees: This is John E. Vogt, director of engineering, Michigan Department of Health, who will continue with the presentation of this joint report.

STATEMENT OF JOHN E. VOGT,

DIRECTOR OF ENGINEERING

DEPARTMENT OF HEALTH
OF THE STATE OF MICHIGAN

MR. VOGT: Mr. Chairman, Conferees, Ladies and Gentlemen:

I will discuss the status of municipal sewage collection and treatment.

The report on Water Pollution Control in the River Basins of the Southeastern Michigan Region presented by the Michigan Department of Health and Water Resources Commission at the Conference called by the Secretary of Health, Education, and Welfare in Detroit on March 27 and 28, 1962, sets forth information on the type and extent of sewer systems and the disposal and treatment methods in effect at all governmental units within the region. It was pointed out that every city, village, and township having a sewer system had with a sewage treatment plant of its own or contracted with another governmental unit for treatment of its collected wastes. Further, that of about 3,500,000 living in developed sections of this area, less than 2 per cent lived in municipalities having no sewer system.

The aggressive program of the Water Resources Commission and State Health Commissioner in bringing about development of sewer systems and treatment works was indicated by a listing of formal corrective actions against municipalities taken by these regulatory agencies to maintain control of pollution. It was clearly demonstrated by these tabulations and the accompanying text that in virtually every community in the Detroit River and tributary river basins pollution control facilities either had been installed, were under construction, or were scheduled for construction.

During the 38-month period since this information was presented this program has continued as scheduled, quite without influence or reference to the Detroit River-Lake Erie study project undertaken by the Department of Health, Education and Welfare. All of the work under construction or scheduled at that time has been completed except for one project to be completed this year. In addition several communities have built new sewer systems and treatment facilities to prevent initial pollution; others have extended and improved sewer systems and treatment works to keep abreast of community growth and expansion and still others have installed facilities for separation of storm and sanitary sewer systems or other means of improved control of overflows from combined sewer systems. Many of these projects have been undertaken voluntarily indicating a growing public acceptance of the responsibility for effective pollution control and improvement of environmental health conditions.

The tabulations presented in the March 1962, report have been updated to show the status of projects undertaken since 1950 by communities in the Detroit River system drainage basins to maintain control of pollution. Status as of June 1, 1965, is shown on the accompanying Tables, together with the status of each project as of March 1962.

Mr. Chairman, I would like to request that the tables in this report be made a part of the record. I shall conserve time by not reading these tables.

MR. STEIN: They will be included as if read, without objection.

(Six pages of tables follow.)

ACTION TAKEN BY
COMMUNITIES AND STATE REGULATORY AGENCIES
SINCE 1950 TO MAINTAIN CONTROL OF POLLUTION

Community	How Project Initiated			Facilities Required	Cost	Status	
	Action	Agency	Year			As of March 27, 1962	As of June 1, 1965
Almont	Voluntary	-	-	Treatment Plant	$ 195,000	Completed 1957	Completed 1957
Ann Arbor	Agreement	MDH	1962	Treatment Plant Addns	$2,395,000	Initiated later	Under Constr.
Armada	Voluntary	-	-	Treatment Plant	$ 272,000	Completed 1955	Completed 1955
Centerline	Order	WRC	1958	Combined sewer separation; connection of sanitary to Detroit	$1,307,000	Construction Commenced	Complied 1965
Carleton	Voluntary	-	-	Lagoons	$ 105,000	Initiated later	Completed 1965
Chelsea	Agreement	MDH	1959	Treatment Plant Addns	$ 175,000	Complied	Complied
Clinton Twp-Macomb Co.	Voluntary	-	-	Treatment plant	$1,800,000	Completed 1953	
Clinton Twp-Macomb Co.	Voluntary	-	-	Treatment plant	$1,[illegible]	Completed 1957	
Dearborn	Stip'n	WRC	1956	Abandonment and plant connection to Detroit	$ 270,000	Scheduled 1962	Complied
*Detroit	Order	WRC	1950	Interceptor	$5,350,000	Complied	Complied
Detroit	Order	WRC	1950	Pump Station	$ 961,500	Under Constr.	Completed 1963
Detroit	Agreement	MDH	1959	Interceptor	$1,350,000	Commenced 1961	Complied 1963
Detroit	Voluntary	-	-	Treatment Plant Addns	$12,500,000	Under Constr.	Completed [illegible]
Dexter	Voluntary	-	-	Treatment Plant Addns	$ [illegible],000	Initiated later	Completed 1963
Dundee	Order	WRC	1951	Treatment Plant	$ 242,000	Complied	Complied
Farmington	Order	WRC	1950	Combined sewer overflow control connection to Detroit	$ 400,000	Complied	Complied
Flat Rock	Agreement	MDH	1958	Treatment Plant Addns	$ 100,000	Scheduled 1962	Complied 1963

* Expenditures do not include over $100 million from 1950-1965 for relief sewers and retention of combined sewage for subsequent treatment.

Community	How Project Initiated Action	Agency	Year	Facilities Required	Cost	Status As of March 27, 1962	As of June 1, 1965
Gibralter	Agreement	MDH	1958	Interceptor connection to Wayne Co plant at Trenton	$ 500,000	Scheduled 1962	Complied 1963
Grosse Ile Township	Order	MDH	1964	Treatment Plant and Interceptor (by Wayne County)	$5,000,000	Scheduled	Constr commenced 1964 - to be completed 1965
Grosse Pointe Park	Stip'n	WRC	1960	Combined sewer overflow control connection to Detroit	$ 175,000	Commenced 1961	Complied
Macomb County (Southeast) E. Detroit Roseville St. Clair Shores	Stip'n	WRC	1960	Combined sewer separation and control of overflows	$38,000,000	In financing stage	1 project complied 1964, remainder scheduled 1965
Manchester	Order	WRC	1951	Treatment plant	$ 140,000	Complied	Complied
Melvindale	Order	WRC	1951	Connection to Detroit	$ 25,000	Complied	Complied
Milan	Order	WRC	1951	Treatment Plant	$ 225,000	Complied	Complied
Milford	Order	WRC	1951	Treatment Plant Addns	$ 75,000	Complied	Complied
Mt. Clemens	Order	WRC		Treatment plant	$2,000,000	Complied	Complied
New Haven	Voluntary	-	-	Treatment Plant	$ 320,000	Completed 1956	Completed 1956
New Baltimore	Voluntary	-	-	Treatment Plant	$ 580,000	Completed 1962	Completed 1962
Oakland County-Evergreen Farmington Interceptor Serving:				Interceptor with connection to Detroit	$12,693.000	Completed 1960	Completed 1960
Birmingham	Order	WRC	1952				
Bloomfield Hills	Order	WRC	1952				
Bloomfield Twp	Order	WRC	1952				
Farmington Twp	Voluntary	-	-				
Keego Harbor	Voluntary	-	-				
Lathrup Village	Order	WRC	1954				
Pontiac Twp	Voluntary	-	-				

Community	How Project Initiated			Facilities Required	Cost	Status	
	Action	Agency	Year			As of March 27, 1962	As of June 1, 1965
Oakland County-Evergreen Farmington Interceptor Serving - Continued							
Southfield	Order	WRC	1952				
Troy (portion)	Voluntary	-	-				
W. Bloomfield Twp	Voluntary	-	-				
Westwood	Voluntary	-	-				
*Oakland Co - Southeastern Sewage Disposal System Serving:	Order	MDH	1957	Combined sewer overflow control;relief sanitary interceptor with connection to Detroit	$7,500,000	To be completed 1962	Complied 1964
Berkley							
Birmingham							
Bloomfield Hills							
Clawson							
Ferndale							
Hazel Park							
Huntington Woods							
Madison Heights							
Oak Park							
Pleasant Ridge							
Royal Oak							
Royal Oak Twp							
Southfield							
Troy							
Pontiac	Order	WRC	1951	Treatment Plant Addns	$ 800,000	Complied	Complied
Pontiac	Order	WRC	1959	Treatment Plant Addns	$3,200,000	Constr.commenced	Complied 1963
Riverview	Agreement	MDH	1960	Treatment Plant	$911,000	Scheduled 1962	Complied 1965
Rochester	Agreement	MDH	1960	Treatment Plant Addns	$495,000	Complied	Complied
Rockwood	Agreement	MDH	1958	Treatment Plant Addns (by Wayne Co)	$140,000	Scheduled 1962	Complied 1964

* Additional $53,000,000 expended for relief sewers and retention of combined sewage for subsequent treatment.

Community	How Project Initiated			Facilities Required	Cost	Status	
	Action	Agency	Year			As of March 27, 1962	As of June 1, 1965
Saline	Order	WRC	1951	Treatment Plant	$ 200,000	Complied	Complied
Saline	Agreement	MDH	1963	Treatment Plant Addns	$ 215,000	Initiated later	Constr Commenced 1964
South Lyon	Agreement	MDH	1958	Treatment Plant Addns	$ 350,000	Complied	Complied
Sterling Twp-Macomb Co	Voluntary	-	-	Treatment Plant Addns	$ 250,000	Initiated later	Completed 1965
Stockbridge	Voluntary	-	-	Lagoons & Interceptor	$ 250,000	Initiated later	Under constr 1964
Tecumseh	Order	WRC	1949	Treatment plant	$ 260,000	Complied	Complied
Trenton	Agreement	MDH	1958	Treatment Plant	$1,665,000	Scheduled 1962	Complied 1964
Utica	Voluntary	-	-	Treatment plant replacement	$345,000	Initiated later	Completed 1964
Warren	Voluntary	-	-	Treatment plant interceptors & combined sewer separation	$35,800,000	Under Constr.	Completed 1958-1965
Washtenaw County	Petition	WRC	1957	Interceptor connection to Ypsilanti Twp.	$ 300,000	Inactive	Completed 1963
Wayne County-Downriver Sewage Disposal System Serving: Allen Park Belleville Brownstown Twp. Dearborn Heights Ecorse Lincoln Park River Rouge Romulus Twp. Southgate Taylor Twp. Van Buren Twp. Wyandotte	Agreement	MDH	1958	Interceptors and addns to plant at Wyandotte. Abandonment of county plants at Belleville, County Major Airport and Romulus Township	$16,815,000	Scheduled for Constr 1962	Complied 1964

Community	How Project Initiated			Facilities Required	Cost	Status	
	Action	Agency	Year			As of March 27, 1962	As of June 1, 1965
Wayne County - Northeast Sewage Disposal System	Agreement	MDH	1958	Addns to interceptor connection to Detroit	$ 582,000	Under constr. 1961	Complied 1963
Serving: E. Detroit Grosse Pte Shores Grosse Pointe Woods Harper Woods Roseville St. Clair Shores	Agreement	MDH	1958				
Wayne County - Rouge Valley Sewage Disposal System Serving: Canton Twp. Dearborn Heights Garden City Inkster Livonia Nankin Twp. Northville Northville Twp. Novi Plymouth Plymouth Twp. Redford Twp. Romulus Twp. Van Buren Twp. Wayne	Order	MDH	1961	Addns to interceptor connection to Detroit	$16,815,000	Under constr 1961	Complied 1963
Ypsilanti	Agreement	MDH	1961	Treatment Plant Addns	$1,500,000	Scheduled 1962	Complied 1963
Ypsilanti Twp. Washtenaw County	Voluntary	-	-	Treatment Plant Addns	$ 888,000	-	Under constr 1964
TOTAL COST - 1950 to 1965					$177,641,500		
COST - March 1962 - June 1, 1965					$119,859,500		

ADDENDUM

Community	How Project Initiated			Facilities Required	Cost	Status	
	Action	Agency	Year			As of March 27, 1962	As of June 1, 1965
Brighton	Agreement	MDH	1956	Treatment plant additions	$ 223,300.	Completed 1959	Completed 1959
*Grosse Pointe Woods and Harper Woods	Voluntary	MDH	1956	Combined sewer overflow control - connection to Detroit system	$ 859,700.	Completed 1961	Completed 1961

* Does not include $11,810,300 for storm sewer separation.

GRAND TOTAL COST - 1950 to 1965 --$ 178,724,500.

MR. VOGT: Thank you.

Actions both voluntary by the community and by some action of the regulatory agencies are indicated.

The estimated amount of expenditures for each project has been added.

The magnitude of this activity is illustrated not only by the number of projects and communities served but also by the amount of the expenditures. Over $57 million had been spent during the 12 years preceding the HEW Conference in 1962 and about $120 million has been spent since then. This does not include over $150 million expended during this period for projects for relief of combined sewers which are an important part of the facilities for retention and control of overflows from combined sewer systems.

As to the subject of municipal water supplies:

The City of Detroit obtains its water supply from two sources and serves treated water to about 60 municipalities in the metropolitan area. The main source of supply is from an intake at the head of Belle Isle. This intake and tunnel structures have a capability of furnishing over one billion gallons of water ,er day through three water filtration plants at Water Works Park, Springwells Station, and Northeast Station.

A fourth filtration plant was built in Allen Park, known as the Southwest Plant, by the Wayne County Road Commission and was turned over to the City of Detroit when completed in 1964. The distribution systems of all four plants are interconnected. In the event of an outage of any one plant the others can still supply water to the entire city. Such an interconnection also exists to the City of Wyandotte.

The Southwest Plant obtains its water from an intake in the Detroit River between Grassy Island and Fighting Island on the Canadian side of the International boundary 5300' from shore. This intake was installed at the designated location based upon a comprehensive engineering study and report submitted in 1955 by Hazen and Sawyer, Consulting Engineers.

The plans for the Detroit Southwest intake and water filtration plant were approved by the Michigan Department of Health and the facilities were constructed by the Board of Wayne County Road Commissioners only after a comprehensive survey of water quality by the County and its consulting engineers in 1955. (This particular study was referred to as the "Wayne County Water Supply

Investigation 1955," page 18 of the Findings). A great deal of water quality data was collected for this survey and from time to time various conferences were held by the consulting engineers and staffs of the Wayne County Board of Water Commissioners, Michigan Department of Health, and the Water Resources Commission. The site was selected on the basis of a very satisfactory water quality and on expected future protection, both of which have been confirmed from operating results.

No less important and in addition to consideration being given to raw water quality, appropriate attention was also directed toward the design criteria for the treatment facilities, themselves. They are developed in detail in the consulting engineers report entitled, "Functional Design-Filtration and Pumping Plants Wayne County Water Supply Project, September, 1956." (This particular report was not referred to in the Health, Education, and Welfare Findings.) They are summarized in the original report on water quality. Between the two reports, it is stated that, "These ratings are conservative and would assure excellent water purification," and, "The special precautions are reflected: in the provisions for heavy prechlorination, post chlorination, and dechlorination if necessary; in the provisions for long flocculating (40 min.) and settling times (4 fours) to assure ample opportunity for the chemicals to act; in the inclusion of activated carbon and chloride dioxide for taste and odor control; in the use of filtration rates substantially lower than those used successfully at Detroit; and in the provision of automatic devices to indicate quickly changes in raw water and filtered water quality." Considerable flexibility in treatment and standby facilities are included in the design and additionally all filtered water passes through treated water storage reservoirs which provide added chlorine contact time before being pumped to the distribution system.

Wyandotte

The City of Wyandotte obtains its source of water supply from the Detroit River through a 42" intake pipe 1700' long terminating in a crib placed in a cut in the middle ground. The treatment at the Wyandotte Filtration Plant consists of prechlorination, chlorine dioxide, alum and carbon with flocculation and sedimentation for pretreatment, filtration and post chlorination and fluoridation.

The present intake, placed in operation in July 1950, replaced an old intake in approximately the same location. Prior to installing the present intake considerable testing was done on the river water, and in 1946 on the basis of the city's request and their test data and the recommendation of their consulting engineers, a construction permit was issued by the Michigan Department of Health to construct an intake 3900 feet from shore in Canadian waters. Tests made since that time substantiate the fact that these plans were sound and should have been executed. Since 1959 several discussions were held with the City of Wyandotte urging them to execute the 1946 plan or an equal alternate plan in order to provide an improved raw water quality. Another possibility was made available to the City of Wyandotte to obtain improved raw water by connection to the new Wayne County intake line. The Wayne County Road Commission installed a wye connection at the shore shaft for this express purpose.

In 1961 the Michigan Department of Health issued a construction permit for improved pretreatment facilities conditioned upon the City of Wyandotte securing an improved quality of raw water.

From all information made available to us including the data contained in the Projects report

Wyandotte's water supply can be improved by taking advantage of better quality water available.

An objective analysis and evaluation of the treatment provided at the Wyandotte water filtration plant will bring out that bacteriological tests on finished water at Wyandotte regularly show results which are far superior to the drinking water standards of the U.S.P.H.S. and moreover that extra precautions are being taken through additional built-in safety factors to protect the users of this supply. A few of these extraordinary precautions over and above the normal are as follows:

a. Chlorine residual recorder, with alarm, on the pretreatment phase.

b. Manual tests for chlorine in addition to those made by the recorder, are made throughout the plant hourly and more frequently if changes occur, with appropriate adjustments in chlorine application.

c. A new sedimentation basin with over four hours detention time for future maximum flow rates. Present detention time is 6 hours and greater.

d. Prechlorination with free chlorine residuals which are then maintained throughout the plant and the distribution system.

John E. Vogt

Monroe

Records show that the original water supply was establishedin 1889.

MR. STEIN: Pardon me. Did you mean to eliminate that other sentence?

MR. VOGT: Yes.

MR. STEIN: That was meant to be eliminated?

MR. VOGT: Yes.

A privately owned utility pumped untreated water obtained from a 20" intake located about 3 miles north of the River Raisin mouth in Lake Erie 1800 feet from shore in approximately 25' of water. (That is, there are 7'-12' of water over the intake crib.) Typhoid fever and other associated diseases were a chronic problem at the turn of the century and thereafter until chlorination facilities were first installed in 1915, resulting in a definite improvement. Less than ideal operation of the supply with deficiencies in both quantity and quality resulted in transfer of ownership to the City of Monroe in the early twenties and the installation of a complete filtration plant in 1924. There is evidence to indicate that the raw water quality was affected by the quality of water coming from the Raisin River.

John E. Vogt

Occasional taste problems plus relatively high coliform indices resulted in the construction of the new intake extending 1 mile in Lake Erie at Pte. Aux Peaux in connection with a plant expansion in about 1950 to 8 M.G.D. There should not be any question or implication that influences resulting from civilization and the activities of man including domestic and industrial waste discharges jeopardize the safety of the water supply provided to consumers on the Monroe water distribution system. This statement is made with proper recognition to the desirability of using raw water sources of the best quality obtainable and providing full protection from unlawful pollution.

Raw water quality in regard to MPN--the most probable number--determined by daily tests at the Monroe water filtration plant show averages as follows:

1961 - 745
1962 - 621
1963 - 803
1964 - 859

Median figures of monthly averages are:

1961 - 571
1962 - 385
1963 - 639
1964 - 590

John E. Vogt

From this data it is obvious that the raw water quality at the Monroe intake is superior to that given for water filtration plants in the "Manual of Recommended Water - Sanitation Practice of the U. S. Public Health Service."

Figures for chloride and total hardness are:

	CI	TOTAL HARDNESS
1952	--	117.7
1955	--	114.8
1957	--	123.5
1961	31	126.1
1962	36	124.0
1963	40	131.6
1964	39	134.1

Bacteriological analyses of the treated water clearly show the drinking water to be entirely safe by any standards and certainly far superior to the U. S. Public Health Service Drinking Water Standards.

John E. Vogt

I would now like to discuss public bathing in the Detroit River.

The suitability of natural waters for swimming, water skiing, and other forms of close contact recreation is dependent upon many characteristics of the water and of the stream or lake which contains it. Among these are water temperature, color, and turbidity, depth of water, bottom materials, and physical obstructions such as submerged rocks, deadheads, snags, etc.
The presence of sewage as determined by sanitary surveys and confirmed by certain bacteriolotical analyses is the principal yardstick by which hazards to public health are measured.

It is universally agreed among public health investigators of bathing water quality that the sanitary survey of sources of pollution which may reach bathing areas provides the most reliable basis for determination of the extent of endangerment of the public health. It is equally well agreed that bacteriological analyses often provide valuable information to support and supplement the findings of the sanitary survey. Unfortunately, however, as pointed out in the U. S. Public Health Service report on bacteriological and epidemiological studies of bathing waters of Lake Michigan entitled "Tri-State Survey of Lake Michigan Waters (1948)," no correlation could be established between the concentration of bacteria, as determined by standard methods of analysis, and effects on health of persons swimming in such waters.

This report and subsequent reports issued by the Public Health Service recognized that it is impossible to establish a numerical standard for bathing water quality in terms of bacteriological concentration. It is well known that many areas of the country have included some numerical value as a guide line or objective based upon local needs and conditions. A wide range in values are in use by various municipalities, State regulatory agencies, interstate compact groups, and others. Usually these numerical parameters are based on the most probable number per 100 ml of sample of organisms of the coliform group although the more tedious test for organisms of Escherichia Coli subgroup or so-called "Fecal Coli" provides more significant information. Even this test includes organisms found in animal as well as human intestines. The entire coliform group includes several subgroups found in soils and elsewhere outside warm blooded animals, thus having no public health significance of themselves.

Thus it is clear that the standard tests for bacteriological concentration developed for these purposes do not, of themselves, provide a reliable measure of water quality. The effects of land wash, certain nutrients for regrowth of the organisms and other variables, may often yield a distorted picture of actual conditions.

An interesting example of this is cited in the aforementioned Tri-State Survey of Lake Michigan Waters.

At Whiting, Indiana, samples of lake water showed enterococcus organisms of extremely low concentration never exceeding 3.6. To quote from the report, "coliform densities as high as 11,000,000 were found in this area where the water had none of the obvious characteristics of sewage. It is postulated that the corn sugar waste from the American Maize Products Company may induce coliform growth in the lake itself."

This serves to emphasize the need for the exercise of judgment based upon all of the pertinent facts rather than some arbitrary numerical yardstick in determining whether water quality is suitable for swimming.

Little, if any, organized swimming is practiced in the Detroit River. There are no public beaches of any consequence on the river below Belle Isle. Physical characteristics of the shoreline and bottom high velocities coupled with navigational and shipping uses make these waters generally unattractive for this purpose. It has not been necessary, therefore, for the State or county health departments to close beaches or take other formal action to dissuade the public from swimming in these waters.

That finishes my section, Mr. Chairman.

MR. STEIN: Thank you. Are there any comments or questions?

MR. POSTON: Yes. I wondered in this table of treatment, communities with treatment plants-- I did not have time to look that over carefully; but I wondered, does this mean that all of the communities in this area have secondary treatment, and that there are no needs there then at this time?

MR. VOGT: No; this does not say that, Mr. Poston. This states that a treatment facility is provided, depending upon the needs as judged by the State agencies for that particular location.

MR. POSTON: This is a record of construction that has taken place since 1950?

MR. VOGT: Since 1950.

MR. POSTON: And then there could be--

MR. VOGT: Actually some of the plants do provide secondary treatment; some provide primary treatment; but the tabulation does not differentiate.

MR. POSTON: I think that the communities of Michigan can be commended that they all have treatment. I think this is a very fine thing to have in the State.

I go down a little further and I have a comment about Wyandotte and the recommendation that they go to Canada for their water supply; and I wondered whether you had any other comment on that. I think this is one of the things that we continually get pressure on to make our pollution work go faster and do more. We in America are very proud of our "firsts," and to ask that we go to Canada for a purer supply of water is not, in my way of thinking, what we ought to be doing; and I wondered whether you cared to comment on this further.

I noted that Detroit plans a new intake up in Lake Huron.

MR. STEIN: Let me see if I understand you. Do you mean to say they are asking an American city to go to Canada to get a cleaner supply of water to drink?

MR. VOGT: I think you should re-read the report, and I think you are making some interpretations here which are not there, because the report does not state that the City of Wyandotte should go to Canada for its water supply.

We do say that there is improved raw water quality, or there is raw water available which is improved over their present raw water source available to them; and we do not specifically say that they should go to Canada.

MR. STEIN: What does this mean: You say the permit was issued by the Michigan Department of Health, reading from your report, page 15, to construct 3900 feet from shore of connecting waters--that is Canada--and you say tests made since that time substantiate the fact that these plans were sound and should have been executed.

MR. VOGT: These were the recommendations of the consulting engineers for the City of Wyandotte and the Michigan--

MR. STEIN: But you--

MR. VOGT: May I finish, Mr. Chairman?

MR. STEIN: Yes.

MR. VOGT: --and the Michigan Department of Health approved these recommendations; and it was based upon the raw water quality data submitted to it.

Now, if the report and the study had shown that actually this was where the investigation was made and if they had investigated on this side of the International Boundary, they might have well found a similar quality of water. We are not going into that. But the study was made as far out and beyond the ship channel; and the recommendations were based upon the study of raw water quality at that point.

MR. STEIN: I understand you, but in reading your report, other than the engineers, you say tests since that time substantiate the fact that these plans were sound and should have been executed. That is your judgment. "Several discussions were held with the City of Wyandotte urging them" -- I assume you people did that -- "to execute the 1946 plan"; in other words, to go out of the country to get drinking water for their citizens, or an equal alternate plan, in order to provide an improved raw water quality.

It seems odd that a State agency of a sovereign State in this nation should recommend and urge on an American city to have to go out of the country for a decent water quality.

MR. VOGT: You are taking that out of context, Mr. Chairman, because if you will read the statement "or equal alternate plan," I think that is extremely important. In other words, the axiom of water supply engineering is get the best raw water quality available to you and then provide whatever treatment is necessary to render it safe for drinking.

So, we took the position that the program should be that the best raw water quality available should be obtained.

Now, we did not say that the only place to find the best raw quality was on the other side of the International Boundary. In fact, as we indicated in the report, "or an equal alternate plan."

MR. STEIN: Where could they find equal alternate plans on the American side? Isn't this--you are giving them a Hobson's choice. What choice did they have? They either had to take water--and I read what they are doing in the plant. You have listed viewing a visual recorder with an alarm, and annual tests, made by the recorder hourly, about sedimentation, four hours detention, pre-chlorination--they are taking heroic efforts to protect their citizens because they are taking water from the American side. What alternative did they have except to go out of the country?

MR. VOGT: You are prejudging an investigation that was not made. In other words, you are saying--which we have not said--that acceptable raw water quality was not available on this side of the International Boundary. Now, our report does not say this.

Let me ask one of my associates here if he would like to comment further on this.

MR. STEIN: Would you identify yourself for the record, please?

MR. VOGT: This is Mr. C. C. Crumley, sanitary engineer in the Division of Engineering of the Michigan Department of Health.

MR. CRUMLEY: Just a comment on that, with respect to the raw water quality on the American side, as far as the Wyandotte intake or proposed intake could be, the navigational interests precluded the location of an intake in certain areas of the American waters, whereby they could not take advantage of the quality in American waters.

MR. STEIN: Sir, I have heard--what is this man's name from Wyandottee, Mr. Hazey? But it seems to me that Mr. Hazey, like any other water works operator in the country, feels that his present intake is in a reasonable location, and that an American City and as an American citizen he is entitled to good water right at that intake where it is; and I do not think I am misrepresenting his position. Are you going to invite him here?

MR. OEMING: Yes; he is scheduled to appear.

MR. STEIN: As far as I understand his position through the years, this was it. I think you should establish that.

One more point that Mr. Poston made, and this kind of surprises me, and I would like an explanation of it. There is a rather detailed report, and I think a very excellent one, on water supply situations in various communities; but the key point that we are dealing with is how the community treats its wastes, and all we get in the table is treatment plants, treatment plant additions, without saying what your treatment is, primary or secondary, what the effluent is; and it seems to me passingly strange that we have such a detailed and complete report on water supply--and I agree with you, Mr. Vogt, I am sure that the people here in these areas are getting a safe potable water; but what puzzles me is the daily operation and the daily kind of treatment in the treatment works in the various communities.

MR. VOGT: I think, Mr. Chairman, that it is important here to recognize the degree or to understand the degree of treatment which is provided by these water supplies, in view of some of the statements in the Public Health Service report indicating that the safety of the water supplies was in jeopardy;and particularly should there be a breakdown in equipment or a malfunctioning of the treatment process, I think it was important for us to point out the safeguards which are built into these water treatment plants, and the operating characteristics of them.

I think it was extremely important to give that side of the picture in view of the statements in the Public Health Service report, which might tend to question the quality of treated water produced by these plants.

MR. STEIN: Well, I don't know if these people are here. I have heard so much about this over and ever again. But as I read this and I think what you said has--certainly I am not criticizing that you went into the water supply plans; but I wish we had this kind of detail on what the treatment plants were doing, Municipal treatment plants, as you have given us in water supply. I think, as I understand it from the investigators of the Federal Government, that if you have a deteriorated raw water supply, the only thing between that and the people are men and machines, and, as we know, they both break down. The better the quality of the raw water supply the better the safety factor with this treatment.

I listened to their report, and I read it very carefully. I did not get any implication that the people in this area were not getting a safe potable water.

MR. VOGT: Well, maybe we read different things into words. Furthermore, I think we pointed out in our report on Municipal waste treatment that in 1962 we provided the conferees with a very complete recitation and a very complete status of the municipal sewage treatment plants in the area, getting into the degree of treatment provided, et cetera, and also stated at that time plans which were under way, construction which was under way or pending, at these municipalities as far as sewage treatment was concerned; and in that report we pointed out very carefully and in depth the degree of treatment which was provided. This is all a matter of record. So far as this report was concerned, we felt that all we needed to do was update the report and confirm whether or not the plans which we said were under way in 1962 had in fact been carried out.

MR. STEIN: Yes, I would agree with you. If this is the view--and reading this very interesting information you have given us on water treatment in Wyandotte, Monroe, and others, I would say if we compared the two fields that it seems to me in your water plants, to provide a safe potable water for the inhabitants of this area, you would have to have the most advanced sophistocated kind of treatment.

I wonder if you can say the same thing for the waste treatment plants,that they are providing a comparable kind of treatment measured with the status of the art in waste treatment today as we are providing in water treatment.

Maybe that is a rhetorical question and maybe it answers itself.

MR. POSTON: I had one further question. I noted that Wyandotte has precautionary measures here that they take,over and above the normal, recording with alarms, tests for chlorine; in addition new sedimentation basins, prechlorination--and there are four recommendations of extra precautions there--I wonder whether the upstream waste plants have similar type precautions, an alarm system to notify the water works of hazards, or bypassing, or reduced treatment, or things like this.

MR. VOGT: Yes, they do, Mr. Poston. In other words, there is a very close liaison between the upstream--let us say the operation at the Detroit sewage treatment plant, that if there is some emergency that exists in the Detroit system, the City of Wyandotte is advised; or if there are plans to make some changes which might temporarily reduce the degree of treatment for a temporary period of time, this information is passed on in advance to the City of Wyandotte.

MR. STEIN: Have you anything else?

MR. POSTON: I understand that Detroit is putting the new intake up in Lake Huron, or has plans to. Is this to get away from, or to provide additional water quality that they would like to have for the people in this area?

MR. VOGT: I think this should more appropriately be posed to the general manager of the Detroit Water Board; but I think that one reason for going to Lake Huron is that the load on the system is more to the north of the City of Detroit; so it seemed logical that, rather than pumping from way downriver up north, you put the intake to the north side of the load.

MR. STEIN: Right. The Detroit intake now, the major intake, is in the Canadian waters, is it not?

MR. VOGT: Not that I know of.

MR. STEIN: That was pointed out to me the other day, I thought.

MR. VOGT: No, sir.

MR. STEIN: No?

MR. VOGT: The southwest--

MR. STEIN: The south intake.

MR. VOGT: The southwest intake, yes; but the main intake is not.

MR. STEIN: One of you made intakes into Canadian waters?

MR. VOGT: No.

MR. STEIN: No?

MR. VOGT: I think it should be clear that the major intake in the Detroit area, which is on the Detroit system is at the head of Belle Isle, and this is in American waters, and it has a capacity for something in excess of one billion gallons per day.

MR. STEIN: That is above the Detroit waste discharge, isn't it?

MR. VOGT: Yes; it is at the head of the Detroit River.

MR. STEIN: But you have a water intake below the Detroit discharge, don't you?

MR. VOGT: Yes.

MR. STEIN: And that is in Canadian waters?

MR. VOGT: That is in Canadian waters.

MR. STEIN: Well--

MR. VOGT: I would like to clarify the point which you made, which was erroneous. The intake which is in Canadian waters is a relatively small portion of the intake capacity for the Detroit system; in other words, some 150 million gallons per day, versus one thousand million gallons per day.

MR. STEIN: I agree with you. The point that I was making, that where Detroit had its water intake above the source of the Detroit discharge it was in American waters, and where it was below the point where the sewers are discharged, they had their intake in the Canadian waters. Do you have any questions?

MR. POSTON: I wondered whether or not Wyandotte, according to the demand and the capacity to apply chlorine, the demand has ever exceeded the capacity to apply chlorine.

MR. VOGT: I would say no, Mr. Poston. However, I do not have that information at my fingertips. But I think I could say no just categorically, because we supervise this. If, let us say, the connotation of this question is that if this prevailed then a degraded water would in fact be pumped to the distribution system, there are other things that would be done before this would prevail. For example, perhaps cutting down on the rate of pumping during a short period of high chlorine demand would be done if this prevailed. But to my knowledge this has never prevailed.

MR. POSTON: When this Wyandotte water was first put in, that was approved by the State Health Department; that is, the existing intake?

MR. VOGT: Well, it was -- you will bear in mind in the report I pointed that out. It was approved following the earlier study which indicated that the intake should in fact extend out farther into the river. So when we approved the shorter intake line, we did so with the understanding that, as I recall now -- and now I am trying to recall the details of this -- with the understanding that if a satisfactory water quality was not obtained then appropriate changes would be made.

MR. POSTON: What I was getting at is, do you feel then that the water quality is deteriorating, and this is the reason that the operations or capacity--

MR. VOGT: No, we do not think that the water quality is deteriorating, but again I go back to the axiom of water supply engineers; that every effort should be made to obtain the best quality of raw water available, and since there is better raw water available, then we feel this should be obtained; but we do not feel that the water quality has deteriorated at this point.

MR. POSTON: That is all I have, Mr. Stein.

MR. STEIN: Do you have anything else?

MR. OEMING: No.

MR. STEIN: You know, Mr. Vogt, on page 20 you mention that in Whiting, Indiana, samples of lake waters showed endrococcus organisms with extremely low concentrations, never exceeding 3.6. To quote from the report, "coliform densities as high as 11 million were found in this area where the water had none of the obvious characteristics of sewage. It is postulated-- and you do not say who postulated--"It is postulated that the waste from the American Maise Company may induce coliform growth in the lake, itself."

Then you say "This serves to emphasize the need for the exercise of judgment based upon all the pertinent facts rather than some arbitrary numerical yardstick in determining whether water quality is suitable for swimming.."

I do not know if anyone disagrees with that, but we did have a conference at Chicago several weeks ago and the Whiting Beaches are closed for swimming.

Now, I also have a question here, and I would like to raise this.

MR. VOGT: I think it should be pointed out for the record that this quote is from the Public Health Service report.

MR. STEIN: I am not arguing with it.

MR. VOGT: These are not our words.

MR. STEIN: Yes; I am not saying that. But the point is, these people feel that there is a danger, and this is their judgment.

By the way, we did not, the Public Health Service did not close the beach. It was the Indiana local authorities. They felt when there was a question involving the health of the people they just did not want to take a chance.

MR. VOGT: Well, this is one possibility. The other possibility is that conditions have changed since 1948. Bear in mind I am referring to a study that was conducted back in 1948. That is a few years ago.

MR. STEIN: Yes.

MR. VOGT: And conditions could well have changed since them.

MR. STEIN: Yes. The beaches have been closed for a while, too, the Whiting Beaches since then.

But then you talk in terms of the significance of fecal coliform, and you said this test includes organisms to be found in animals as well as human intestines, having no public health significance of themselves. I think most of the professionals here are experts in this area. Harold Clark just died a few weeks ago; but we do have Dr. Kabler here, and Mr. Delwright, who has worked with him through the years, and Cadwell was his supervisor. I think it is well known that Clark has developed methods with fecal organisms, fecal strep organisms, which permits him to differentiate between animal and human material, and permits him to differentiate between material coming off from the soil. In other words, we believe now--and the experts are here--that we can make a determination with these fecal strep tests whether something comes from a human, something comes from a warm-blooded animal and a slaughter house, or these come from a field and they were lying around a field, and this can be done, I think, with a fair amount of precision.

MR. VOGT: Well--

MR. OEMING: May I interrupt?

MR. STEIN: Yes.

MR. OEMING: Could you permit me to call Mr. Barbour?

MR. STEIN: Yes. Would he mind that?

MR. OEMING: I don't think so. You won't mind interrupting this for a minute?

MR. VOGT: No.

MR. STEIN: There is a man who wishes to make a statement, who has to leave, and Mr. Oeming has asked that he call him now.

MR. OEMING: Yes, Mr. Chairman, I would like to at this time provide the opportunity to Mr. Al Barbour, chairman of the Wayne County Road Commissioners to make a statement. I understand he will make a statement both on behalf of the Wayne County Road Commissioners and the Wayne County Department of Public Works.

MR. BARBOUR: Mr. Oeming, Mr. Stein, and Mr. Poston, I appreciate this opportunity of being able to interrupt the proceedings, to make a statement on behalf of the Wayne County Department of Public Works and the Wayne County Road Commission. Let me apologize --

MR. STEIN: Can you hear him out there?

VOICES: No.

MR. STEIN: Would you mind speaking up, or getting closer to the microphone?

MR. BARBOUR: All right. Let me indicate to you my appreciation for allowing me to break into your proceedings this way. We have another commitment this afternoon, so on behalf of the Wayne County Department of Public Works and the Wayne County Road Commission, we would like to, as quickly and as briefly as we can, present our statement to you from both agencies of government.

MR. STEIN: Go ahead, Mr. Barbour.

STATEMENT OF AL BARBOUR

MR. BARBOUR: We have reviewed the findings and conclusions of the U. S. Public Health Service Detroit River-Lake Erie Study and are concerned over the damage reportedly being done to the river and the lake by inadequately treated municipal and industrial wastes and by combined sewer overflows.

We are aware of the widespread and long-range impact that the Detroit River-Lake Erie System will have on this region and are concerned over any effect that sewage treatment plant effluent from the Wyandotte Plant might have upon the quality of these waters.

The survey data in the report for the Wyandotte Sewage Disposal Plant was collected, as the report states, in 1963. At that time the sewage disposal plant was undergoing extensive expansion and improvement. However, because of its then overloaded condition, inadequately treated sewage plant effluent was being discharged to the river. The expansion has now been completed and plant capacity is now approximately five times its former value and as a result treatment in excess of present requirements is now possible.

In addition, some treatment of combined storm water and sanitary sewage from the No. 5 District, which would otherwise be pumped to the river, is being provided. This treatment will be possible until such time as the growth and development of the service area require all plant capacity for treatment of domestic and industrial wastes.

The Rouge River in the Middle Rouge District and Ecorse Creek in the Down River District are the principal surface water channels in the areas served by the DPW's facilities. Because of combined sewers discharging storm water-sanitary sewage mixtures to these streams during the time of storm, the facilities constructed by this Board are unable to further control or improve the quality of the water in these two streams.

The Board of Public Works of Wayne County is prepared to take further steps to improve the degree of treatment at the Wyandotte Plant by several means. We propose to donduct surveys of the service area to determine whether it is possible to control at their source, certain toxic materials found in the effluent. We also propose to investigate the use of chemical precipitation to further improve the performance of the existing facilities. In this manner we hope to achieve results appproaching the desirable standards set forth in the report.

Al Barbour

The County has constructed sanitary interceptor sewers and disposal plant expansion amounting to $36 million and in the last three years has constructed, on behalf of its municipalities, approximately $6 million of extensions to local systems.

The Board of Public Works of Wayne County is anxious to do its part in making certain that the waters of the Detroit River and Lake Erie are so used that the greatest benefit to the greatest number of people will result and their availability for future users will be unimpaired.

STATEMENT NO. 2
BY MR. AL BARBOUR

MR. BARBOUR: The Detroit River and Lake Erie must be viewed as a very important natural resource, constituting, as they do, the outlet for more than 2/3 of the largest fresh water resource in the world. The conservation of such a natural resource is certainly in the national interest; and the people of Michigan, remembering the destruction by improper use of the great timber resources of the lower peninsula certainly do not wish to bear the responsibility for the destruction of another natural resource, a most vital water resource, which is now in jeopardy.

The Detroit River and Lake Erie are affected by a number of phenomena both natural and artificial, which are changing the characteristics of the lake. The natural phenomena bringing about gradual changes in the lake are the short-range and long-range variations in weather cycles and changes in the character of the watershed by virtue of long-range geological and climatic cycles.

Lake St. Clair is probably a smaller version of the future condition of Lake Erie with a delta formation at the mouth of the St. Clair River and a shallow water depth resulting from deposition of material transported by the St. Clair River. The wind and current action in Lake St. Clair will continue to cause material from its bottom to be suspended in the water as it leaves Lake St. Clair, and on occasion the entire Detroit River as it passes to Lake Erie will be discolored by this turbidity.

In addition to thse natural phenomena, changes in the character of the watershed of the Great Lakes will result in changes in quantity and quality of the water, itself, and will contribute to the gradual changing of the characteristics of the Detroit River and Lake Erie.

Al Barbour

As the economy of the region changes from predominantly agricultural to largely municipal and industrial, the runoff of surface water is altered. Streams discharging to the lakes experience greater extremes of high water level and low rate of flow and in times of high flow the high velocities carry surface wash from streets and highways, parking lots, roofs, and other impervious surfaces and from fields and pastures, where once these same streams carried only the natural runoff from the forest land. These natural factors and phenomena contribute to the gradual change in the character of the waters of Detroit River and Lake Erie and over these there can be no control. The un-natural factors, however, contribute significantly and dangerously to the accelerated change in character of Lake Erie are subject to control and if minimized, can prolong for many centuries the life of Lake Erie as we now know it.

At the March, 1962, conference on the pollution of Detroit River and Lake Erie, Wayne County informed the conference that it had at that time completed financing arrangements for the construction of interceptor sewer facilities and treatment plant expansion to bring the operation and maintenance of the county systems

Al Barbour

well within the requirements of the State of Michigan. This construction program has since been essentially completed. The Wyandotte and Trenton Sewage Plant survey data obtained during the course of the study by the U.S. Public Health Service was from sewage plants in the process of being enlarged, but which at that time were overloaded and were discharging improperly treated effluent to the Detroit River. Since the publication of the survey, the U. S. Public Health Service has returned to the county plants at Wyandotte and Trenton for the purpose of continuing the survey with these plants in their present operating condition.

The construction program described at the 1962 conference which included interceptors and treatment plant expansion totalling $36 million has been completed. In addition, Wayne County has constructed or has under contract, on behalf of its municipalities, $17 million worth of facilities to extend local systems into areas now dependent upon septic tanks. All sewage treatment plants operated by the county have been expanded to provide primary treatment capacity for at least 100 per cent in excess of the present connected population.

Wayne County has recognized that problems of public health know no political boundary and has made

Al Barbour

capacity available in its systems for areas outside of Wayne County and has offered to continue this policy in areas now now served. Its master plan for future interceptor and treatment facilities contemplates service to adjoining counties and these counties have been informed of this master plan.

It is the position of the Wayne County Road Commission that in view of the foregoing factors and circumstances, the need and desirability of a more adequate degree of sewage treatment is apparent; and that it is recognized that secondary treatment, perhaps not as now defined, but as some process more sophisticated and advanced than present methods to achieve safe, proper and adequate treatment and disposal of sewage is required; and that this Board is prepared to undertake steps to achieve this goal.

To this end it is proposed to conduct a survey with the objective of location and control at the source of sewage elements not susceptible to ordinary treatment methods. It is also proposed to investigate, with a view toward installation and use, newly marketed chemical aids, and to consider possible modifications of present plant to approach as nearly as possible the desired treatment goals.

Al Barbour

It is further recognized that the action taken by the Wayne County Board of Supervisors in 1955 stipulating the construction of separate sanitary sewer systems was the first step toward ultimate separation of storm water from sanitary sewage and that most existing combined sewer systems are overloaded and in need of relief; and, accordingly, this Board has embarked upon a policy and program of construction of separate storm sewers and of removing highway drainage from combined sewer systems.

It is acknowledged that no combined sewer system can be free from the danger of flooded basements and the attendant health hazard and individual, rather than municipal, financial loss.

The next step in a program of ultimate separation of storm and sanitary sewage should be that construction of relief facilities for existing combined sewer systems take the form of diversion of storm water from combined sewer systems to separate outlets, permitting the retention and treatment of ever-increasing volumes of storm water-sewage mixtures from existing combined systems and ever-increasing reductions in the number, extent, and duration of overflows to the Detroit River and its tributaries.

Al Barbour

It is further the position of this Board that the doctrine of "nobody else does anything about it, why should we?" has no application here, and that the industrial treatment plants and processes of waste control must proceed on a parallel rather than a leading or following schedule of correcting and improving programs.

It is in the interest of all parties to agree upon and to proceed at once to accomplish what is presently possible and to plan future actions to preserve to the extent of present and future abilities, the waters of the Detroit River for the most beneficial use of present and future generations.

MR. STEIN: Thank you very much, Mr. Barbour, for an excellent statement. I think if every city and industry had the attitude you represent I would be out of a job.

MR. BARBOUR: Thank you very much.

MR. OEMING: Thank you.

MR. STEIN: All right. Do you want to continue with Mr. Vogt?

MR. OEMING: Yes.

MR. STEIN: Do you have any comment, Mr. Vogt? I am sorry for the interruption.

MR. VOGT: That is perfectly all right, Mr. Chairman. I think this discussion has been very interesting and stimulating, and I think it serves to emphasize the point which was ultimately brought out this morning in the questions which were submitted to the two Public Health Service investigators, Mr. Vaughan and Mr. Harlow, where at the end of the discussion it was emphasized that in making a judgment as to whether or not a particular area was safe for swimming they used other factors than merely a particular number or a particular coliform index, and this was the point which we desired to make in our presentation here.

MR. STEIN: I think this is a fair statement, and I think your point is well taken, Mr. Vogt. I have just a couple of small clarifying questions. Indications that we have had in Washington, and, you know, we kind of keep a docket on all these cases, and keep clipping them, but through the years we have read newspaper reports about Monroe having taste and odor problems in their water intake. Is there anything to that, or does this still exist?

MR. VOGT: Well, I think a lot of communities that use surface sources of water supply for a water treatment plant have various taste and odor problems due to a variety of reasons, and I think Monroe has taste and odor problems occasionally, but certainly this does not prevail routinely.

MR. STEIN: It rarely does.

MR. VOGT: Sir?

MR. STEIN: It rarely does in any city. This is part of the taste and odor situation. In most communities it is intermittent, and we do have a problem. I think this is present throughout the country. Some areas have constant taste and odor problems; but most communities do have intermittent problems.

MR. VOGT: Most of those that have a surface source of supply to their water treatment plant.

For example, we in Lansing have a well-water supply which is softened, and we have a very uniform quality with no objectionable taste and odor at any time.

Now, even in Detroit, or even in Chicago, or I presume in Washington, where you are familiar with it, these water utilities have taste and odor problems.

MR. STEIN: That is right, but the point is--

MR. VOGT: So, I don't know what point you are making here.

MR. STEIN: If the taste and odor problem is due to a discharge, and we have this in Chicago, I think they have been on record for years, and their record is clear; Chicago puts out a superb quality of water.

As a matter of fact, where you get the intermittent problem is where you get the complaints. Generally speaking, when you have a specific taste and odor problem as bad as it is, if it is not too bad, the people kind of get used to the taste and smell of the water; but where they are accustomed to a relatively good water, if a taste and odor shows up, the telephone at the water works begins ringing, and at the Mayor's office, and the complaints come pouring in.

The complaint in Chicago was that there was a taste and odor problem attributable to industrial discharges in Indiana, and they wanted it stopped. The question I am raising here is if Monroe has taste and odor problems, this isn't just something that generally speaking we ignore in a case of this kind. If this is related to an upstream discharge we should know about it, and see if corrective actions can be taken. This is the point I make.

MR. VOGT: I don't know whether we know whether it is due to upstream discharge nor do I know from the findings whether this has pinpointed it or not, either.

MR. STEIN: This is the point we are making. Now, you did speak about averages and medians of coliforms at Wyandotte and Monroe water intakes. How about the subsequent streams?

MR. VOGT: I do not have that data with me, Mr. Stein.

MR. STEIN: Well, I meant, I am not just talking about this data,but I noted this in the Government report, too. I think very often we can get them this way, by medians or averages in these counts in water pollution control, because you may have a fairly good average on a beach, and if the coliforms or the bacteria counts are so high, say for eleven days in August, you close that beach for swimming. The fact that you have a pretty good average on a year-round basis doesn't speak very well. I think the extremes are the things we might keep our eye on sometimes, and seeing to what extent we have these extremes.

MR. VOGT: Well, certainly, Mr. Chairman, we do have that data, and we do keep our eyes on it, and if we were concerned we would do something about it, of course, obviously.

MR. STEIN: Yes. Are there any other questions or comments?

MR. POSTON: No questions.

MR. OEMING: No questions.

MR. STEIN: Thank you very much, Mr. Vogt for a very illuminating talk.

MR. OEMING: Mr. Chairman, I expect you are going to call a recess and I would like to point out, before you do, I would like to resume with the conclusion of the presentation of the balance of the report by Mr. Purdy upon resumption of the conference, and if possible, if you wish to spend a little time, we could take care of a couple of statements, and I know that the Macomb

County Health Department is here, and I think the Lake Erie Clean-Up Committee. They might be taken out of order, but to save time, we can use the day to its best advantage.

MR. STEIN: This time is yours. Now, you call your people as you wish. If you want to call them before Mr. Purdy, fine, or after.

MR. OEMING: I want to finish Mr. Purdy first.

MR. STEIN: I would think that that would be right, but this is your choice. We shall stay recessed for ten minutes.

(Whereupon a ten-minute recess was taken.)

MR. STEIN: May we reconvene, Mr. Oeming?

MR. OEMING: Mr. Chairman, Mr. Poston, at this time I would like to call again on Mr. Purdy to complete the State Report presentation.

MR. PURDY: This section deals with the status of industrial waste treatment and control.

The report made at the first conference sets forth the program of the Water Resources Commission to control pollution from industrial sources in the river basins of the southeastern Michigan region. It described in general terms the principal waste constituents and recited the types of actions taken by the Water Resources Commission and its predecessor Stream Control Commission. That portion of the industrial waste treatment and control chapter pertaining directly to the industries named in the report published by the Secretary of Health, Education, & Welfare has been updated for this conference. Status as of June 1, 1965, is as follows:

ALLIED CHEMICAL CORPORATION.

The General Chemical Division

No significant changes in treatment and control methods.

Plastics Division

No significant changes in treatment and control methods.

Ralph Purdy

Semet-Solvay Division

No significant changes in treatment and control methods.

Solvay Process Division

Treatment and control methods have been improved. Measures have been taken to reduce the possibility of accidental oil losses and to eliminate periodic discharges caused by spills or lime losses.

AMERICAN AGRICULTURAL CHEMICAL COMPANY

The Water Resources Commission has notified the company that additional pH controls should be considered. No significant changes in treatment and control methods.

AMERICAN CEMENT CORPORATION

Peerless Cement Company

The Water Resources Commission has notified the company that suspended solids are a significant waste constituent in their effluent. No significant changes in treatment and control methods.

ANACONDA AMERICAN BRASS COMPANY

No significant changes in treatment and

control methods.

ARCHER-DANIELS - MIDLAND COMPANY

Ceased operations at Wyandotte location.

CHRYSLER CORPORATION

Chemical Division and Amplex Division

No significant changes in treatment and control methods.

Trenton Engine Plant

No significant changes in treatment and control methods.

CONSOLIDATED PACKAGING CORPORATION (FORMERLY
CONSOLIDATED PAPER COMPANY

North Side Division

The Water Resources Commission has notified the company that the biochemical oxygen demand of its effluent is a major burden upon the limited resources of the Raisin River. No significant changes in treatment and control methods. Straw processing operations were discontinued in 1962.

South Side Division

De-Inking operations have been essentially eliminated reducing waste loading to the river. The Water Resources Commission has notified the company that settleable solids losses are substantial and that the biochemical oxygen demand of its effluent represents a major load for the limited resources of the Raisin River. No significant changes in treatment and control methods.

West Side Division

Operations to case July 31, 1965.

DANA CORPORATION

The Water Resources Commission has notified the company that the oil content in their waste effluent was slightly above the objective sought by the International Joint Commission. No significant changes in treatment and control methods.

DARLING AND COMPANY

The Water Resources Commission has notified the company that the biochemical oxygen demand and coliform content of its effluent required their attention. Treatment and control methods have or will be improved by:

Ralph Purdy

a. Handling of dead stock has been reduced from about 60 to 3 animals per day.

b. Chlorine feed equipment is on order.

c. Plans are being prepared for the reconstruction of present settling basins and the addition of a chlorine contact chamber.

DETROIT EDISON COMPANY AND POWER REACTOR DEVELOPMENT COMPANY

No significant changes in treatment and control methods.

E. I. DU PONT DE NEMOURS AND COMPANY, INCORPORATED

Industrial and Biochemicals Department

Pilot plant studies are under way to develop new methods for reducing acid content of wastes.

FIRESTONE TIRE AND RUBBER COMPANY

Firestone Steel Products Division

The Water Resources Commission has notified the company that the iron concentration in its waste effluents exceeds the objective sought by the International Joint Commission and that the pH of the effluent has lower than the minimum objective. No significant changes in treatment and control methods.

FORD MOTOR COMPANY

Metal Stamping Division - Monroe

The Water Resources Commission has notified the company that cyanide losses exceeded the limit imposed by Commission Order. Treatment and control methods have been improved by process changes and improved control of chemical handling.

Rouge Plant - Dearborn

The Water Resources Commission has notified the company of the need for additional oil recovery facilities. Treatment and control methods have, or will be improved by:

a. Two new floating skimmers have been placed at the Roulo Creek outlet.

b. A boat and motor together with an additional floating skimmer has been located in the boat slip area to clean away floating oil that may accumulate in the boat slip or turning basin.

c. Plans are being developed to install a temporary floating skimmer in the Rouge River below the Gate 11 outlet until other permanent measures can be developed.

FUEL OIL CORPORATION

Evaluation of effluent quality disclosed need for reduction of oil losses. Company subsequently suspended its operations at this site.

GREAT LAKES STEEL CORPORATION

Blast Furnace Division

The Water Resources Commission has directed the company's attention to the waste phenols, iron, suspended and settleable solids, and grease and oils in their effluent. Treatment and control methods have been improved. Clarifiers have been rebuilt, waste volumes have been reduced and in-plant process controls have been instituted.

Great Lakes Steel Corp. Ecorse Mill

The Water Resources Commission has notified the company that substantial quantities of iron, suspended and settleable solids and oils and grease are lost to the river from mill operations. Additional oil removal facilities have been provided and other major processing changes are under way, including additional waste treatment facilities.

Ralph Purdy

Great Lakes Steel Corp. Hot Strip Mill

The Water Resources Commission has called the company's attention to the oil and suspended solids contained in the effluent. Extensive studies have been made and are continuing to determine methods for improvement of effluent quality.

KOPPERS COMPANY

Tar and Coal Division

Processing operations have ceased at this location.

MC LOUTH STEEL COMPANY

Gibralter Plant

The Water Resources Commission has notified the company of the need for better pH control of its effluent and reduced iron, oil, and suspended solids losses. Treatment and control of methods have been improved by redesign of equipment to reduce acid losses and by additional settling and neutralization facilities.

Trenton Plant

Staff has continued to seek improved waste control at this plant. Treatment and control methods have been improved by changing to high grade lime for acid neutralization. More reliable operation of the waste treatment plant has been established by the installation of standby equipment at critical locations within the system and by training operators and supervisors in the importance of proper operation of the treatment facilities.

MOBIL OIL COMPANY

The Water Resources Commission has notified the company that oil losses should be reduced and that phenol concentration in the effluent exceeded the objective sought by the international joint commission. Treatment and control methods have been improved by re-routing of waste streams for more efficient use of existing waste treatment facilities and by in-plant process changes.

MONROE AUTO EQUIPMENT COMPANY

No significant changes in treatment and control methods.

MONSANTO CHEMICAL COMPANY

The Water Resources Commission has called the Company's attention to its phosphate and suspended solids losses to the river. Treatment and control methods have been improved by the addition of a third settling lagoon and by in-plant changes to reduce raw material and product losses.

PARKE-DAVIS AND COMPANY

No significant changes in treatment and control methods.

PENNSALT CHEMICALS CORPORATION

East Plant

The Water Resources Commission has called the company's attention to the chloride, suspended solids, and chlorine losses to the river. No significant changes in treatment and control methods. However, studies are under way.

West Plant

The Water Resources Commission has notified the company that the phenol concentration of its effluent exceeds the objective sought by the International Joint Commission and also their attention was directed to suspended solids losses. No significant changes in waste treatment or control methods; however, studies are under way.

REVERE COPPER AND BRASS, INCORPORATED

The Water Resources Commission has notified the company of the need to reduce oil losses. No significant changes in treatment and control methods.

SCOTT PAPER COMPANY

The Water Resources Commission has notified the company of a need for a reduction of suspended solids in its waste effluent. Treatment and control methods have been improved by:

a. Changing to the purchase of peeled pulpwood only.

b. Re-use of water.

c. Installation of new screens.

d. Reduction in lime usage.

SHAWINIGAN RESINS CORPORATION

Treatment and control methods have been improved by the construction of a new settling lagoon.

UNION BAG - CAMP PAPER COMPANY

River Raisin Paper Company Division

The Water Resources Commission has notified the company that there is a need for additional treatment facilities to improve the water quality of the Raisin River. No significant changes in treatment and control methods.

UNITED STATES RUBBER COMPANY

No significant changes in treatment and control methods.

WYANDOTTE CHEMICALS CORPORATION

North Plant

The Water Resources Commission has directed the company's attention to the chloride and suspended solids contained in its waste effluent. Treatment and control methods have or will be improved by:

a. A calcium chloride recovery plant has been constructed.

b. Additional waste streams will be diverted to the Fighting Island settling lagoons.

c. Better maintenance and control of waste control facilities of the coke plant.

South Plant

New propylene oxide plant placed in operation with restrictions on waste effluent quality extablished by an increased use Order of Determination issued May 24, 1962, by the Water Resources Commission. The principal waste sources are liming tower bottoms and caustic scrubber bottoms. Control facilities necessary to comply with the Order requirements were installed coincident with start of operations. Liming tower wastes are pumped to the Fighting Island settling lagoons. Treatment and control methods for other plant sources have been improved as the result of:

a. The "A" section of the glycol plant has been shut down with subsequent reduction of oil losses.

b. Liming tower and cracking wastes have been diverted to the Fighting Island settling lagoons.

c. The dry ice plant has ceased operation.

In addition, studies are under way to reduce chloride losses from the Mercury chlorine cells.

MONITORING OF AREA WATERS

Patrols of the entire Detroit River and the lower Rouge River were initiated in August 1960. Observations are made, as long as weather permits, from a radio-equipped powerboat. Originally during adverse weather, observations were made from an automobile at vantage points along the shore. Since the winter of 1962, routine observations have been made during the winter months from a helicopter. Observations of unusual or objectionable waste discharges or river conditions are reported immediately to the offender and are further followed up by the Michigan Water Resources Commission District Engineer.

In March 1963 a water quality monitoring program was established on each of twenty-eight drainage basins in the lower Peninsula. Samples are collected by Water Resource Commission personnel at each station on, as nearly as possible, a bi-weekly schedule.

The results of the analyses at these stations serve to provide information for evaluating pollution abatement needs. The results are published each year on a calendar-year basis. Three rivers are sampled in the Detroit-Monroe areas, and these are:

Ralph Purdy

1. Raisin River in the middle of the dredged channel opposite the city dump at Monroe.

2. Huron River at the River Road Bridge, 3.5 miles southeast of Rockwood.

3. Rouge River at the Detroit, Toledo,and Ironton Railroad Bridge to Zug Island.

SUMMARY

The Michigan Water Resources Commission and the Michigan Department of Health efforts combined with that of the Commission member agencies, in reducing pollution of Michigan waters as needed have been identified and outlined in the first report of the State and by this report. This has been accomplished by fact-finding, counseling, persuasion, and where necessary, the exercise of procedures authorized by statute. The Health Commissioner has withheld construction permits for new public sewer systems or extensions to existing systems. He has exercised due care to see that sewage systems are properly planned, constructed and operated. He has classified the waste water treatment plants and required that the operator in responsible charge of each plant be certified as to competency and operation of plants of that class, and he has required each community operating sewage system to submit such records as he considers necessary to show adequacy of the performance.

Conferences to show why pollution has not been abated have been held before the Water Resources Commission. New or increased pollution has been prevented by Orders of Determination and existing pollution has been abated by the Final Orders of Determination, both issued by the Water Resources Commission pursuant to its statutory authority. Orders and agreements of the State Health Commissioner have been equally effective. Where compliance was not forthcoming, the Water Resources Commission and Health Commissioner have sought and have obtained enforcement in the courts through referral of the defaulted Order or agreement to the Attorney General.

The Secretary of Health, Education, and Welfare has, through the study and report, assisted the State of Michigan by identifying the sources of pollution going into the Detroit River and Michigan waters of Lake Erie, and by providing quantitative data on present water quality. Such additional controls as are necessary to meet the requisites of Michigan statutes will be required.

MR. STEIN: Thank you, Mr. Purdy, for an excellent statement. Are there any comments or questions?

MR. POSTON: I do not have any at this time.

MR. STEIN: I think I will just ask one clarifying question here. In some of the industries you have made recommendations or notification to them?

MR. PURDY: Yes, sir.

MR. STEIN: Other industries this isn't stated. Does the lack of that statement have any significance?

MR. PURDY: If we have made a recommendation for additional waste treatment facilities, it would be stated.

MR. STEIN: In some cases it was not?

MR. PURDY: In that case we have not made a statement to the industry since the March 1962, conference that additional controls were necessary.

MR. STEIN: This does not necessarily mean that the situation in that industry is satisfactory, or one way or the other; the absence of such?

MR. PURDY: It means with the information that we had available to us at that time that a need for additional controls had not been identified.

MR. STEIN: Thank you. This is for clarification: On page 21, under Allied Chemical Corp., this is the Solvay Process Division, there is no indication that you notified the company; yet, it says "Treatment and control methods have been improved." Did they just do this voluntarily?

MR. PURDY: This is on a voluntary cooperative basis.

MR. STEIN: Without your asking them?

MR. PURDY: Without our formal notification.

MR. STEIN: Thank you.

Are there any further questions?

MR. OEMING: No.

MR. STEIN: All right; thank you very much.

MR. OEMING: Mr. Stein, at this time I would like to provide the opportunity for a statement to be presented by the Macomb County Health Department. I believe Mr. Merlin E. Damon is here to present a short statement.

MR. DAMON: For the record, I am Merlin Damon, Sanitary Engineer with the Macomb County Health Department.

Mr. Chairman and conferees, the Macomb County Health Department wishes to submit the following statement for the record:

Merlin Damon

As was previously stated in March 1962, this department along with the governmental officials of this county have been concerned with the abatement of water pollution. We believe this is apparent from the report of the findings of the Federal survey which indicate that water quality at the head of the Detroit River appears to be of high quality other than following periods of storm runoff.

Further, we believe our past records of accomplishments in the field of pollution control speak for themselves. Since the conference in 1962 many millions of dollars have been spent and allocated for continued pollution control work in the Macomb County area.

Although realizing that the Federal installation at Selfridge Air Force Base was not within the boundaries of this survey, we would appreciate receiving factual data relating to sewage discharges from their main sewage treatment plant in addition to sewage discharges from other installations on the base. These requests are based on need for answers to the numerous citizen complaints received from the surrounding area by our department.

As was stated in 1962, we are continuing to give attention to the matter of pollution relating to watercraft, ranging in size from the small boats, used for recreational purposes, to the Great Lakes and ocean-going vessels.

Again we wish to thank you for this opportunity to state our position and assure you of our interest and continued desire to control water pollution.

MR. STEIN: Thank you, Mr. Damon. Let us see if we can find out about Selfridge Air Base. Do you know about that?

MR. POSTON: Is Mr. Todd A. Cayer here? Could you tell us about Selfridge? Come up. We would like to know about the Selfridge Air Force Base and the treatment facilities and their discharges.

MR. CAYER: I don't know this off the top of my head. We do have this information available.

MR. STEIN: Is the information available?

MR. CAYER: Yes, the report has been made and it is on file with the Michigan Water Resources Department.

MR. OEMING: No, we do not have it.

MR. STEIN: They don't seem to.

You do not have it. This obviously looks like we are dealing with many layers of many organizations -- I almost said bureaucracies. I think the issue here is, "Let us make an effort." Mr. Cayer, will you take it upon yourself to be sure that if Michigan has it -- unless you have some objection -- I think the normal operation is that Mr. Damon should get that from your office and deal with your office on this, unless you want him to deal with us directly. How do you want to handle it?

MR. OEMING: Let us let this be decided later. If Mr. Cayer gets this information, this report, arrangements can be made -- and let us know -- arrangements can be made to see that the information gets to the people.

MR. STEIN: All right. We shall make the report available and we shall check. Now, if the report is not available, or you cannot get it for some reason, we shall let you know, too, and we shall get it because we want this. I believe it is available.

MR. CAYER: It has been completed.

MR. POSTON: I think this could be obtained this afternoon, could it not?

MR. OEMING: No. We are talking about

two separate things, Mr. Poston. I think what Mr. Damon was talking about was operating reports for the sewage treatment facilities at the Air Force Base. This is the routine operating reports.

MR. DAMON: This is correct, plus there are Army installations on the base that are not connected, to the best of my knowledge, to the Air Force Base sewage treatment facilities, and I am interested in what happens to these, because we have some serious thoughts about these. It is not only the sewage treatment.

MR. CAYER: We do not receive operating records from any of the Federal installations.

MR. STEIN: No, I don't think we do have that.

MR. CAYER: This would go in to the Surgeon General of the Air Force operation.

MR. STEIN: Do you have a question that there may be a pollution problem from the base?

MR. DAMON: Yes, we do.

MR. STEIN: I don't want to give you a wrong impression on this or what we are going to get for you. If you have a question that there may be a pollution problem from the base, we shall investigate that, work on that with the State, and attempt to get a report, if available, and we shall give you our analysis of the pollution problem. I do not want to say to you that we can get you operation reports, because we do not have them. I do not want to make a commitment to say that we can give you what we don't have in our files. Anything we have in our files on the Federal installation, other than anything that is confidential or secret for national security reasons, is available to you; but we do not have that. We shall at least get enough information so that a satisfactory conclusion can be made whether they are causing the problem, and if they are, we shall surely take steps to see that they correct it.

MR. DAMON: Thank you.

MR. OEMING: Mr. Stein, may I make a comment here? I do not know whether this might result in some recrimination, but the State Health Department advises me that they get reports from some Air Force bases of sewage treatment plant operations. Apparently this is not a policy that applies uniformly at all bases; and in the Selfridge Air Force base they cannot get the reports.

MR. STEIN: May I go off the record here? I shall be glad to talk, but I do not want to be the spokesman for the Air Force.

MR. OEMING: Yes.

MR. STEIN: Or another Federal agency.

(Discussion off the record.)

MR. STEIN: You have to recognize that many Federal installations, in carrying out Federal functions do not recognize State authority. Some of them do that as a matter of policy and let you have these reports. Some of them do not. It is kind of hard for us to get them to do that. By the way, we have had this, and you can see the implications in the policy if you will bear with me for a moment, and understand this.

We have had certain States where they have wanted our doctors and our engineers to be licensed and registered under the State laws that we had the installations in. Obviously, in running a Federal establishment you cannot assume that kind of a requirement, with the way we shift people and have to carry out the Federal functions. Of course, this has been steadfastly maintained, and the courts, of course, have supported it. Some of the people in charge of the installations take the Constitutional requirement very strongly. As a matter of fact, if we did not have -- and I don't know how many of you fellows have gone around the Army or Air Force and Naval bases -- but if we did not have a strong, energetic man at the top of it, you wouldn't want them in their jobs, and this fellow is not too amenable sometimes to providing these kinds of reports to State authorities which he doesn't feel have jurisdiction over them.

This is why the Congress has given up the authority and they had to give it up. Very often the State cannot get it and we get it, and when we get it, it is a matter of public information.

We shall be glad to cooperate with you on this, and I just ask that you look at the complete picture and try to work with us.

Now, we have never yet found that -- and I am talking in terms of pollution problems, aside from jurisdictional and other problems -- but as far as a pollution problem we have never found a practical situation with a Federal installation that we could not come to a reasonable agreement with the installation and the State authorities. I expect we shall be able to do that here with a little work, but I do not want to guarantee you that an individual post commander is going to supply you with reports; because we have been unsuccessful in that in the past, but we shall get the situation resolved.

MR. DAMON: Thank you, Mr. Chairman. At this time I would like to call on the Lake Erie Clean-Up Committee of Newport, Michigan, to make a statement, Mr. John Chascsa. Is he here?

While he is coming up, Mr. Chairman, I neglected to announce that copies of the State report that was presented by Mr. Vogt and Mr. Purdy are available if anyone wishes them. I don't know where they are at the moment, but there is a supply of them around here. They are ovdr here on this side along this aisle.

MR. CHASCSA: Mr. Poston, Mr. Stein, Mr. Oeming, and conferees, and ladies and gentlemen: I did not expect to make a large report. The last time I did in 1962 it seemed to be quite a lengthy one. This time I am going to try to refrain from reading as much of it as I have here, but I shall turn it over to the conferees as their property after I am through.

MR. STEIN: Mr. Chascsa, do you want the whole report to appear in the record as if read?

MR. CHASCSA: As much of it as you feel--

MR. STEIN: Well. how long is it?

MR. CHASCSA: It is only a couple of pages.

MR. STEIN: We shall print the whole thing.

MR. CHASCSA: Yes; but I do have additional copies of reports that were submitted to me by other member groups of the Lake Erie Clean-Up Organization.

MR. STEIN: Without objection, we shall include those in the record.

MR. CHASCSA: But I would rather not read those. They are lengthy and technical.

MR. STEIN: No; you can submit them and they will appear.

MR. CHASCSA: Thank you. First of all, I would like to show you a picture here of what Sterling State Park looks like today. You people cannot see this. There is a bulldozer and about a half a dozen people cleaning up the beach. That is the way it looks today.

In the June 23, 1962, issue of the Monroe News it showed a picture of Sterling State Park as it was at that time. There were several hundred people here in the picture, and I am sure if there should be some way to get it to you you would notice the difference.

After listening to all this talk up here about the possibility of the Lake not being polluted, the River not being polluted, I think these pictures alone would substantiate this. Also, I am going to include this little clipping here, "Swimming Pools make a Big Splash in Michigan." It is a heck of a lot better to swim in chlorinated water than it is in water that the good Lord made for us.

As President of the Lake Erie Clean-Up Committee, I find it is my duty to oppose the method of the supervisors of the Intercounty Committee's proposal in which they propose to dispose of the wastes, industrial and municipal, to the use of a proposed interceptor sewer winding through five of the six counties which are joined together in the Intercounty Development Plan. The small community such as Estral Beacn, or the communities beginning at Estral Beach, have no chance for survival, no matter how you work at it. We cannot even borrow enough for a study. As pointed out previously, there are reasons for many actions taken by people who we feel are doing an unselfish service for us. Now, what would possibly be the reasoning for a request from the Detroit Water Authority to supply water to Flint?

In 1964 there appeared in the Detroit News an article stating Detroit is willing to give water to these areas if they will also accept the most liberal plan that would include disposition of the sewage from the area, as well.

On August 24, 1963, there appeared an article stating that Oakland County would get sewers and water at a very liberal cost.

On July the 3rd, 1963, there was a request by a Detroit official to dump raw sewage into the Detroit River for ten days.

August 23, 1963, Pontiac is given water from Detroit.

August 24, 1963, Mr. Remus, general manager of Detroit's Water Supply reported to Council that Detroit will extend its sewer strip into Oakland County to tie in with the interceptor sewer.

The reason that we are concerned that these growing areas do not individually build small sewage treatment plants along the Clinton River, is pollution of the Clinton River, which empties into Lake St. Clair, is an added threat to pollute water.

August 30, 1963, Dr. Heustis cites typhoid.

July 20, 1963, Kent County issues hepatitis warning.

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July 4, 1963, ships blamed for pollution of Huron beaches.

February 2, 1965, chemical firm seeks reaction to putting waste into River Raisin.

December 25, 1963, three Michigan schools close; hepatitis hits schools.

March 20, 1965, Adrian and Victorville Schools closed; water supply unsafe.

February 6,1965, Blissfield area school closed because of pollution.

April 22, 1964, the Canadian Globe & Mail quotes members of Parliament, "Lakes becoming large septic tanks."

This could go on and on. Please note that some of these items are in some way related to the 181 miles of sewer being planned, in case you are not acquainted with it--I think Mr. Oeming is. I think your intercounty sewage study report gives the length of them as being 181 miles. What could possibly be the reason? Because in the opposite direction--and that is where I live, where we receive all of this stuff, toward Toledo and Monroe the water situation is bad, and State and Federal authorities try to discourage tapping the waters of

Huron, River Raisin, or Lake Erie. The reason is the Lake is an open sewer and dumping ground for anything and everything that is not wanted, from all sources; industrial wastes, municipal sewage, dredging from the rivers and creeks, as well as other refuse.

By 1970 Monroe will not be able to use Lake Erie as a water source. With water studies on water quality, and so on and so forth, in the past 40 or 50 years, it still is not getting through to the right minds that these are the things that have destroyed civilization since before Christ. In Rome, in Babylon, this happened.

In Deuteronomy, Chapter 23, Verse 13--and this I did not search out. This happens to have been called to my attention in one of the sewage manuals that is distributed, and I shall read it verbatim: "And thou shall have a paddle upon thy weapon and it shall be when thee will ease thyself abroad thee shall give fair witness and shall turn back and cover that which cometh from you."

The above was taken from the Manual of Instructions of Sewage Treatment Plant Operators of the Health Education Service, Post Office Box 7283, Albany, New York.

Then it goes on to say "Water, itself, is not infectious, but is rendered infectious to consumers by infection organisms in number sufficient to produce diseases.

"The term 'pollution,' for instance, is of general significance and should be understood to imply the fouling of an otherwise inoffensive water by sewage or other liquid or suspension, thus rendering it offensive to sight, smell, and unsatisfactory for palatable, culinary or ingestive uses. The word 'infective' has been employed to note contamination of water by pathogenic organisms."

This above was taken from the American Waterworks Association Manual on Water Quality Improvement.

Some firms such as the Humble Oil Company of Texas have spent thousands of dollars to treat their wastes so it can be made safe. Gerber Baby Foods has rectified their nuisance by using it to a favorable advantage.

Due to the lack of time to give this all here, and also in view of the fact that it has been inserted in the 1962 conference, I would like only to briefly call to your attention what is being accomplished; because the sewage that was being dumped into the Fremont River by

Gerber was contaminating the water to the extent that the fish were dying, and it was becoming a nuisance, so they bought a farm, and they rectified it by taking nine miles of pipe and piping their waste to the farm, thereby creating one of the nicest experimental farms there is in the area.

Is it possible that Sagonac Bay is becoming another Lake Erie? I think a mention of that was made today.

Is it possible that some great financial tycoon doesn't want filth around Flint, and has encouraged the use of public funds to the tune of 378 million dollars to put an interceptor sewer from around Flint and wind through five of the six counties for a part of the six-county Intercounty Supervisors Committee for 181 miles of sewer to empty into the Huron River at Lake Erie?

Lake Erie is posted with "Unsafe for Swimming" signs at Sterling State Park. Why not all the beach area all the way to the Detroit River?

As pointed out in the U. S. Public Health report, Detroit has only one treatment plant, and no secondary facilities at all. There are many miles of sewers being diverted into Detroit's plant.

In Detroit there has been an expenditure of over 300 million dollars on interceptor sewers since 1957. Not one cent has been used to rectify the combination storm and sanitary sewers. No effort has been made to eliminate the flushing of the treated solids into the Detroit River from the treatment plant on West Jefferson Avenue and subsequent disposition in Lake Erie.

On February 4, 1965, a bill was proposed to control the water use and bathing at Sterling State Park, which was rather a ridiculous thing. How do you know when the water is going to be polluted and when it isn't?

Last fall a request was made by the Sewer Department of Detroit to be permitted to dump raw sewage into the Detroit River for several weeks. The reason was that a need to repair a valve at the Fairview Pumping station was evident.

It is my understanding that this action has been an annual ritual with one exception. For several years this has been done, but permission was never requested before.

Imagine, if you can, 125 million gallons of raw sewage being dumped into the river every day for several weeks. Thank goodness we have a conscientious group of you as Public Health Service personnel on the job. Otherwise we might have experienced the same conditions as Toledo did last year. Every available pump in Toledo, Ohio, was conscripted and put to use pumping raw sewage into the Miami River. What would occur in Wayne County alone, without adding another 181 miles of sewer pipe?

This actually happened, for example: in Minnesota, Congressman Blatnik assisted all small communities to obtain funds for a sewage treatment plant at Watercrest. We, especially in the Monroe area, are unable to get relief at any time, and this is a fact. However, we do pay taxes that cities like Detroit are able to obtain for almost any purpose, and especially to eliminate any possibility of our communities ever being able to use the river and lake as a source of water supply. We expect the public to install proper plumbing and we enforce the rule here. However, when it applies to large corporations or municipalities there are exceptions or excuses for one reason or another.

Let us adopt uniform rules, regulations, and laws, and honestly abide by them. There is absolutely no reason for any individual or corporation to feel he is entitled to abuse another for personal gain of any type. If we have a problem, let us roll up our sleeves and solve it. If we are going to claim the title of Water Wonderland, let us work at it. If we are going to attempt to preserve some of our natural forests, wildlife, and clean water, let us plan for it. Let us keep the upper peninsula of Michigan in a virgin state as long as possible, and let us stop adding to the pollution in the lower peninsula, especially in the Lake Erie and Detroit area, by adding additional interceptor sewers with no plants for treatment of sewage.

Let us develop and improve lower Michigan as an industrial wonderland with proper facilities for purifying and eliminating water and air pollution altogether. The good Lord gave us these natures to enjoy. Why must we destroy them or deprive our neighbors from enjoying them? It is not impossible and it must be done.

See what pollution has done to our shore line. You can see this any place at all in the Lake Erie area, if you take a trip down there.

The second section of this has a gruesome title, perhaps, but it is true, "The Rape of a Water Wonderland."

In the July 1962 issue of the Readers Digest there appeared an article on page 151 titled "Rape of our Southern Mountains." Every American should have read it. Every voting American should have read it; every voting American should have remembered it; and every penny-budgeting housewife; every sportsman; and every conscientious Christian should have read it, and done something about it, even if he only hung his head in shame.

To commercialize on the gullibility of poor-hill folks is not Christian. To abuse the stature of being a businessman by destroying the life-blood of those of our citizens through so-called shrewd business manipulations is certainly un-American and un-Christian.

When we, as individuals, resign ourselves to a state of deplorable complacence by accepting it, do-nothing bureaucrats who spend our money as well as set the amount of tribute, we must pay to maintain the bureaucracies, is something we have no power or say-so about, then we are lost.

We elect men to represent us in various phases of government to do our bidding and to help us determine the best course to follow. Unfortunately, only a very few take their oaths seriously. Very few attend all sessions that are held in Washington, and in our State and County legislative capitols.

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We have created agencies and commissions and various study groups, and, frankly, I believe the committee studying the sex life of the gnat is about the most capable of submitting an acceptable report, if there is such a committee. Since the late 1950's we have had one after another anti-pollution committees created. We have had a geological study on in the Great Lakes for many years; geologists, biologists, and conservationists, health authorities, and many, many more, who have compiled tons and tons of reports.

In the past 40, 50 or 60 years we have bragged of our intelligence and know-how to do more and better than any other nation on earth. We have proven that we can fly, send rockets and missiles any place on earth, and probably to the moon, and we have not skimped on the cost of these experiments, in spite of the staggering amounts. Yes, we could be proud of our so-called accomplishments. We should be very proud and very humble in dealing with our less fortunate neighbors also, no matter who they are. The trip-to-the-moon commission has never been denied their request for funds. These are always available.

The committees on pollution study, water, health, public safety, sanitation, and many environmental aspects of our well-being have been belittled and slighted and pushed aside for almost a whole decade of studies until today,and we suddenly realize the importance of safe, clean water. Of what earthly use are all the facts and figures gathered in the past 50 years to us? We permit lobbyists to legally have our laws changed to suit their clients' wants. We disregard the riparian rights of the little guy who is all-important at election time and forgotten after election.

In 1961 Governor John B. Swainson was asked to call the U. S. Public Health Service into study of the pollution problem in the Detroit River, Lake Erie, Lake St. Clair, Huron River, River Raisin areas, and many smaller tributaries leading into our lakes. What was the real reason? Did someone feel sorry for the plight of the residents along the Detroit River or Lake Erie, or was there another reason? Did the pipe-dream of the Detroit and Wayne County planners backfire when they found their plans for another Italian dinkus type of island change spilled silt into their water supply system at Belle Isle. Remember the screaming public demand on "What went wrong? Why the bad taste? Why the industrial waste?" and so on and so forth.

Was this a way to get Federal funds to

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pipe water from Lake Huron? Perhaps it should be interesting to note the chain of events prior to and after the S.O.S. for all the people under Federal jurisdiction to come to the aid of the large metropolis of Detroit.

Oh, yes, we all pay Federal taxes, and only the large cities and those with pull are worthy of getting any finances for the things needed to maintain good health and other necessities of which we hear and are told we should have to be good citizens and healthy Americans.

Most often you just cannot afford even a trip to Washington to seek assistance.

However, one of our more ambitious mayors requested 50 thousand dollars to maintain an office in Washington to be nearer the source of Federal grants, loans, and gifts. Thanks to Council Woman Mary Beck it was defeated.

You may say "What has this all to do with pollution?" Well, let us look back a bit on the 27th and the 28th of March of 1962. A conference was held at the Veterans Memorial Hall in Detroit. The findings of the U. S. P.H. S. substantiated that there was definite cause for a thorough investigation into the cause of polution. This was substantiated by written and oral evidence by many State agencies; the Army Corps of Engineers; and various enforcement groups and citizens groups known as the Lake Erie Clean-Up Committee, who not only substantiated these assertions but also submitted written evidence; and there were also 29 charges of water pollution in various degrees, taken at 29 separate locations, ranging from Toledo, Ohio, the State line, to and including River Raisin, Lake Erie, Swan Creek, Huron River, Detroit River, and the Rouge River.

A statement was made at this conference that the people in the Lake Erie and Monroe area could not possibly have such a problem.

One of Detroits leading citizens even went so far as to state a little refuse doesn't hurt anyone, and that perhaps we would be asked to put diapers on the wild ducks flying over these waters so it could stay clean. A very intelligent remark was made by a man who was looked up to by him. In recent statements to the press he ridiculed the U. S. P.H. S. for doing a thorough job. I know it was thorough, because I personally followed all, or almost all of this study. When other organizations were able to, they also followed the progress. According to this man's statement this was all a waste of time and uncalled for. The water quality is so much more improved and has been on the upgrade since 1940. If this water is so much better, then the jars we have--I do not have them on display, but I do have them in the car, and if you people on the panel would like to have them, I would be more than happy to have my friend bring them in here, and let you see what the water looks like today; and it has been an improvement ever since 1940.

On March 27, 1964, the Water Resources Commission granted permission for the Stopper Chemical Corp. to dump $4,000 worh of chloride into River Raisin.

On May 14, 1964, the State Conservation Board takes action to get two additional parks. They cannot take care of the ones that we have.

On March 24, 1964, Home Canning Company in Blissfield resented the permission granted by the State Water Resources Commission to the Stauffer Company.

On March 28, 1964, Representative Hayes' bill passed to permit boats under 25 feet to dump waste into our waters. If you have a boat that is smaller than 25 feet in length you can go out there and dump whatever you want, according to this bill.

I shall submit clippings to show how much Lake Erie has deteriorated. As Justice William O. Douglas stated, sewage treatment plants, and not dams, are needed.

Along the Lake Erie shore line there are many communities. Most of them are suitable for all sorts of recreation.

The subcommittee on the Lake Erie technical study group, or the technical study group of the Lake Erie Committee, has recommended that we come up with some sort of program as to what most of this area could be used for, and most of it--especially areas like Sterling State Park, which is an ideal location for tourists-- and we do want to draw tourists into the area, as the entrance to the Water Wonderland. We find that people do not care to use it for some unknown reason, except perhaps the signs that are posted scare them away. No one cares to oppose a sign that states that the water in the area is not safe for swimming or recreation.

This site offers a possible trailer-camp site, and what could be an ideal picnic site; ideally located

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for Ohio, Indiana, Pennsylvania, and Michigan residents to get to in a little time, and close enough to employment that it could be an ideal location.

The Swan Creek and Estral Beach area, with little financial effort and a determination to develop a small craft harbor, could be turned into a financial boon to Monroe County, as well as Berlin County. Estral Beach offers a very large area for small craft refuge and Swan Creek offers a most enviable position for the accommodation of small boat races, rowing contests, and many related fund-raising activities.

There is room for the development of waterside motels, hotels, restaurants, and so on, and so forth, and we could go on and on and mention every one of these verbatim.

Then February 17, 1965, there appeared a small article in the Monroe Evening News. "I am nine and I am interested in fish. I have been reading about water pollution and how it kills fish. I was wondering what the City of Monroe is doing about water pollution." I wrote him a letter after quite considerable thinking. How do you answer a nine-year-old's letter? How do you make him understand that we, who are supposed to be in the know-how, who are smart enough to tell people in

Europe and in Asia and all over the world how they should live, how can you tell a nine-year-old kid what is wrong with the things that he mostly enjoys like swimming and fishing. Probably some of you do not have children. I have six of my own, and I like children. I love to see them enjoy the good clean waters, and I am sure everyone on this panel here would like to see the same thing.

But, finally, here is what I came up with--if you don't mind, Mr. Stein?

MR. STEIN: Go right ahead.

MR. CHASCSAS: I wrote, "Dear David:

"How does one answer a nine-year-old boys letter? It is difficult, but I will try. Although you probably have never heard of me, I feel as though I have known you all of your young life. You see, I have two boys and four girls, and they, too, were nine years old at one time. Like yourself, they enjoyed to swim, boat, and fish, and though they are now much older they still enjoy the water.

"My children were able to swim in Lake Erie without too much fear up until five years ago. Since then, however, my youngest daughter is unable to swim in

Lake Erie because whatever pollutes the water makes her ill and causes her skin to erupt.

"I can recall when as a boy I could drink this water without any ill effects; but today it would be foolhardy to even try.

"In 1961 Mary Margaret Revel attempted to swim a long distance down the Detroit River to Lake Erie and Toledo.

"In August, 1962, Barbara Smith tried to swim from Amersford, Ontario to the River Raisin at Monroe.

"Both girls became very ill from the pollution in both the Detroit River and Lake Erie.

"Yes, David, many tests have been made of the water in Lake Erie and streams emptying into it, but it seems that there is still enough room to store additional research data, and we probably will not see the day when actual efforts are put into motion to once again make these waters safe.

"Pollution, which starts at the kitchen sink, at the drains of factories, and at the sewers of municipalities wind up eventually in our rivers and lakes.

"Yes, David, studies have been conducted for the past forty years or more, and many are being conducted at the present time. Many village, county and State committees are functioning as representatives of those of us who are paying their salaries, and they certainly have not given us our dollar's worth.

"Then, too, David, there is the big overshadowing benevolence of some industries who tell us, the public, that they will give us a playground, a nice large swimming pool, a nice money contribution for a civic center, and many other good things; all of this to be given at no cost to the communities affected in return for permission to pollute our rivers and lakes. Yes, David, no cost.

"Let us see how this works, for the sake of something to say, when some industries move into a community. The air becomes white -- yes, it becomes white. Those of you who live in Delray and in Wyandotte know what I mean when I say that -- with lime dust; red with iron ore dust; black with coal dust, and on top of all this, smelly.

"The waters that I could swim in as a boy of nine, drink without filtering, and fish in, are now dirty, slimy, and all colors of the rainbow. Very little fishing now; to drink the water would be suicide; and swimming is only for the daredevil types. Yes, David, our waters have become like Russian roulette. One never knows when hepatitis, dermatitis, typhoid, or perhaps something worse will get you.

"In 1962 our Water Resources Commission and our Health Department and several of our commissions told us the people have nothing to worry about in Monroe County. The siltation that is prevalent in the lake is natural and cannot be controlled. They failed, however, to mention how many times a day barge after barge dropped waste from dredging and other sources and dumped it into Lake Eire. They also did not mention the mess made by dumping the wastes from River Raisin, River Rouge, and the Detroit River into Lake Erie, and the resulting end, the destruction of all the beach areas in Michigan and Ohio which border Lake Erie.

"Oh, yes, they also do not mention the eight dumping grounds from Cleveland to the mouth of the Detroit River.

"Yes, David, educated adults deprived you of your right to accept or reject something which you have a right to. It is not considered wrong; it is politic.

"If you should pile your rubbish alongside

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of your neighbor's fence and it spills over into his yard, you were wrong. If you were to build an outhouse at the rear of your yard and it smells up the neighborhood, you most certainly are wrong, and you could be put into jail and looked upon as an idiot for daring to endanger the health of your neighbors. But not if you pollute the rivers or lakes.

"Yes, David, when you talk of these things to some of our public protectors they say water can be made safe for human consumption; but not so long ago in Colorado the water in a small community was treated so very thoroughly that it caused the hospitals in the area to be filled with nine-year-old children, as well as others over and under nine.

"David, when you grow up I hope you will be able to help make people realize that everyone should be considered when water and air is to be polluted by anyone. I hope when you are a man that other men will have developed not only a rocket to the moon, fresh water from sea water, missiles that can be sent soaring five thousand miles or more, but also a healthy respect for their fellow man by purifying all industrial and municipal waste, as well.

"Well, David, I hope you will remember that there are many groups like the Lake Erie Clean-Up Committee who are fighting to clean up the air and water for the next generation, of which you are a part.

"If the men of our generation cannot find the time to eliminate pollution, then it will have to be done by the mothers and their sons and daughters. Let us learn to be honest with one another. We can then once more hold our heads high.

"God bless you, David, and guide you through your life.

"Your friend, sincerely, John Chascsa."

I also have a letter here to Mr. Lawrence Bluebold, which I won't read. I also have a letter to the Honorable Governor George Romney, protesting his insistence on industry moving up north, and I think that is our last frontier, and I think it should be preserved, and I am also going to insert this with a few statistics on it, so that you may have it.

I would also like to impress upon you people out there that sometimes if you look through the Bible you will find things that relate to some of our conditions as they exist today. I am not what you would call a a preacher. I am not a real religious man. I do go to church, and I do try to live a good Christian life. I get mad the same as anybody else. I hope that you will forgive me for taking up so much of your time.

With that I think I will close and let these gentlemen take it from there.

Thank you.

MR. STEIN: Thank you, Mr. Chascsa. Are there any comments or questions?

Mr. Poston?

MR. POSTON: I might ask Mr. Chascsa whether he has seen any changes in the rivers since 1962 at the time you were at the other conference.

MR. CHASCSA: Well, I might say this, that if you had the time, or if you wish to take the time, I have slides that I would like to show you that were taken this year, since January, and you could form your own conclusions. I mean, last year I took some, and the year before I took some on the Fourth of July at the same location, and the water was--well, it was at least as black as this, if not blacker, and it was so smelly that it was sickening. This is in the Lake Erie area.

I also have samples that were taken just within the past two or three weeks, of water ranging from Wyandotte down toward the Plum Creek area, and I am sure that you will find that they resembled the water that was presented in 1962 pretty much as it did at that time.

MR. STEIN: Anything more?

MR. POSTON: Thank you.

MR. STEIN: How about Mr. Oeming?

MR. OEMING: Mr. Chascsa, I assume that you are familiar with the findings of the Federal study in the Federal report?

MR. CHASCSA: You mean the present report?

MR. OEMING: The present report, yes.

MR. CHASCSA: I am familiar with some of it, yes.

MR. OEMING: I think I made it a point to see that you got a complete copy of it; that the Lake Erie Clean-Up Committee got a complete copy.

MR. CHASCSA: If you did, I don't recall it.

MR. OEMING: One went to your secretary.

MR. CHASCSA: She probably has one.

MR. OEMING: In any event, if you haven't seen it, I would suggest that you refer to the portion of the report which begins perhaps about page 300, or somewhere about there, that discusses the Sterling Park situation and the situation outside of Monroe in Monroe County, and particularly to the north of Sterling State Park Beach.

I look at the roster of your committee and I see that you have some clubs here and members from Detroit Beach, Woodland Beach, Stony Point Association, all through this area; and I am wondering if you are not now in a position to lend the influence and prestige of your organization to support bond issues, to get out and sell the need for sewage treatment--collection and treatment in this area.

MR. CHASCSA: May I answer you?

MR. OEMING: I am asking the question, sir; I would like an answer.

MR. CHASCSA: For the record, I would like for you to know that in August, when the Monroe County Fair is being held for a whole week, for the past three years--and I think we have two people here from Monroe County, who will substantiate my statement--we have solicited signatures of people in the Monroe County area, not just visitors from any area, but from the

Monroe County area, to establish a department of public works to do just exactly what you are talking about.

We have also made a request for water, and at one time Mr. Remus had agreed that he would be willing to put a 56-inch line all the way through to the Ford Motor Company, if it were possible, to show them that it would be monetarily feasible.

Since then I don't know what has happened. We are not in a position to dictate to the Board of Supervisors. We do crash their meetings. We do send in requests. We do ask them for other considerations for the people in the area that you realize, I believe, as well as I do, is a depressed area; and I hope that you people do not feel that we are here to castigate you, because I know, as well as you do, that you are doing a job that is almost an impossible job, as well as the United States Public Health Service.

However, people in the past have done this; they have not taken into consideration that when a community builds up that certain provisions have to be made for sewage disposal.

There is a big plant going up at this time in Woodhaven, and you are aware of that, I am quite sure.

What provisions for industrial wastes have been made there? Now, we talk about our smaller areas. These are small beach areas, which are private concerns, and they have to find some way and some means of financing their plight other than the county, because they feel the county won't give them any money, or the county says that they cannot give them the money.

So, until such time as we can persuade them -- and I assure you that we won't give up -- we shall certainly be fighting to see that this department of public works is created and that funds, somehow, somewhere, will be made available to alleviate the situation as far as sewers and water are concerned.

MR. OEMING: Well, I take it, then, Mr. Chascsa, that you are willing to devote much of this energy that you have been using to get these things brought into focus here now, to getting the correction under way?

MR. CHASCSA: I am at the present time a member of the Monroe County Regional Planning Commission, the Lake Erie Technical Study Commission. I am also the President of Estral Beach, the President of the Lake Erie Clean-Up Committee, and if you have any more committees that I might squeeze in some place I shall be happy to serve on them.

MR. OEMING: I guess Estral Beach will have to find some money to clean it up?

MR. CHASCSA: I wish they could. I have written to your department and I have made requests for applications, and even they have gone astray or gone awry, or whatever happens to them; but you can rest assured that I would like to see this taken care of.

MR. OEMING: Well, we don't have any money to give out.

MR. CHASCSA: I know you don't.

MR. OEMING: And this is a local responsibility.

MR. CHASCSA: Well, it is a local responsibility. Now you talk -- I hope you don't take offense at this, but you remind me of our Governor when he made the statement that all the communities should take care of their own responsibilities. As I cited in my report here, if we could borrow that fifty thousand dollars that this mayor wanted for a place in Washington so he could be close to the sources of these funds, we could do a terrific amount of good with fifty thousand dollars.

I served for $75 a year. I would like to see how many other people would exert that much energy.

MR. OEMING: I just hope, Mr. Chascas, that your influence and prestige, which is felt considerably, can be applied to getting the problem solved now rather than about complaining about what isn't being done. Something can be done; it is in your hands.

MR. CHASCSA: I can assure you of one thing, that with the cooperation of your agency and the Federal Government we shall certainly do it.

MR. OEMING: You will have our cooperation.

MR. CHASCSA: If we can be assured of your cooperation we will work on it harder than we have ever worked on it.

MR. OEMING: Fine; that is what I want to hear.

MR. STEIN: Well, Mr. Chascsa, let me tell you something: We do have money to give away.

Let me ask you, if you could summarize this, do you believe that the waters of Lake Erie around Monroe are polluted?

MR. CHASCSA: Do I believe they are polluted?

MR. STEIN: Yes.

MR. CHASCSA: Would you like for me to bring the jar in?

MR. STEIN: No, no. Would you answer the question?

MR. CHASCSA: I mean, I would rather bring it in here, because someone may not believe me.

MR. STEIN: No. I would like your opinion.

MR. CHASCSA: My opinion is definitely they are polluted.

MR. STEIN: All right. Thank you.

MR. CHASCSA: You will see that on this picture, if you pass this picture along here, showing these people. This is a recent one, showing the people cleaning up the beach there.

MR. OEMING: I guess I would have to ask you: Do you believe that the waters of Stony Creek and Sandy Creek are polluted?

MR. CHASCSA: Yes, they are.

MR. OEMING: And where does that come from?

MR. CHASCSA: Some of it comes from some of the septic tanks, and some of it comes from farm run-off.

MR. OEMING: Estral Beach doesn't have anything to do with any of these streams or waste disposal?

MR. CHASCSA: Indirectly they might have.

MR. OEMING: Then you do not agree with the Federal Report?

MR. CHASCSA: I agree with the Federal Report with one exception and --

MR. OEMING: The exception is you don't want Estral Beach to have to do anything? (Laughter.)

MR. CHASCSA: No, no. That is where you are wrong.

Now you make me think of another gentleman who wrote to me and told me that he spent 300 million dollars of the Federal funds to do something in Detroit, and wanting to know what Estral Beach did.

As I told you in my report, if we could borrow enough for a postage stamp to write a letter to the Federal Government, or to the proper authorities, we would be doing good, and when you start picking on little guys some of them don't just sit back and take it -- see? I can assure you that you will get our cooperation.

MR. OEMING: Fine.

MR. CHASCSA: And we are going to be fighting wholeheartedly.

MR. STEIN: With what part of the report don't you agree?

MR. CHASCSA: The report of dumping too close to the port of Monroe or just too close to the mouth of the Monroe River. I believe--I don't know just what page it is on.

MR. STEIN: But identify the idea.

MR. CHASCSA: The idea was that the hoppers of these barges or boats should not be opened too close to the present dumping grounds and they should be moved farther out.

MR. STEIN: Yes; what is your view?

MR. CHASCSA: As the representative of the Army Corps of Engineers stated, something different should be done, and I think it should be contained behind a wall of some kind lined with clay or it should be pumped inland where it could be put to good use. It could be utilized as a fill very easily.

MR. STEIN: I have no further questions.

MR. POSTON: No further questions.

MR. STEIN: Thank you very much, Mr. Chascsa.

MR. CHASCSA: You are welcome; and thank you for the opportunity.

MR. STEIN: Thank you for your comprehensive statement.

John Chascsa

(The following papers were presented for the record.)

EXPERT OPINION:

"The conference heard the present official Coast Guard position on the question of licensing pleasure boat operators. The Coast Guard does not feel that operator's licensing, at least none of the systems that have been proposed so far, would serve any useful purpose. The age limit approach, for one, is not viewed as meaningful because boating accident statistics do not point to age as a determinative factor."

ADMIRAL RICHMOND, Head of the U.S. Coast Guard, Ret. 1961. :

"That is why I appeared to say that we would be reluctant yesterday to jump wholeheartedly on the idea of licensing individual operators. It was not necessarily a reluctance because of administration, but I am not sure that it would really add too much to the overall safety program.

"It certainly would make everybody there show a fair degree of competence before they were able to use a power-driven boat, but it still does not guarantee safety, and I think it could, unless approached very prudently, be unduly restrictive to the boating out there, which I do not think any of us want to see."

ADMIRAL E. J. ROLLAND, Head of the U.S. Coast Guard, Reg.

"You and I know that boating is a relatively safe sport, but we must accept the fact that everyone does not agree with that opinion. According to your industry figures, about 40 million go boating out of a population of 180 million. That means the majority of voters are not boaters."

SOUTHEASTERN STATES
OPPOSE OPERATOR LICENSES

The Southeastern Assn. of State Boating Law Administrators has gone on record against operator licenses at this time. A resolution declaring that "the licensing of motorboat operators be not recommended was adopted unanimously at a meeting of the regional group in Clearwater, Florida. In support of its stand, the association stated that "boating accident statistics . . . fail to show that involvement in accidents is, in fact, related to factors which any system of licensing would substantially reduce or eliminate, and that "problems of administration and enforcement of any such licensing system would outweigh benefits that might accrue."

WASHINGTON
REPORT

By William T. Stone

Licensing Bill Opposed by Federal Agencies

Two Federal agencies -- the Treasury and Interior Departments -- have told Rep. Herbert C. Bonner, Chairman of the House Merchant Marine and Fisheries Committee, that they are opposed to compulsory licensing of boat operators at this time, as proposed in the Chamberlain bill (H.R. 1055).

The Treasury Department, which sometimes speaks for the U.S. Coast Guard on legislative issues before Congress, had this to say in its letter to Mr. Bonner:

"While the Department believes that a federal program of licensing motorboat operators would have a definite deterrent effect on the negligent and careless operation of motorboats, we believe that the government should not at this time embark upon a compulsory licensing program. Rather, further emphasis on boating safety education and more extensive enforcement of existing boating safety laws would appear to be more fruitful. Such a program would be a wiser utilization of federal government funds than the proposed licensing program, the costs of which would be quite high. It is estimated that with over six million potential licensees, an additional six hundred personnel would be required by the Coast Guard to implement the program proposed by H.R. 1055."

The Treasury rasied no objection to licensing by the states, noting that the Federal Boating Act of 1958 contains authority for licensing of motor boat operators under state laws. "We would have no objection," the Treasury said, "to their utilization of this authority. We would hope that if they do so, some degree of uniformity and reciprocity could be attained among the various states."

Fishing vessels affected by licensing bill

The Interior Department, which is concerned with sport-fishing and commercial fisheries, stated flatly: "We recommend against the enactment of this legislation." Noting that H.R. 1055 would be applicable to all commercial fishing vessels that are undocumented and propelled by machinery of more than 10 hp, Secretary of the Interior Stewart L. Udall said:

John Chascsa

"There are approximately 55,000 small boats now being utilized in commercial fishery which would be adversely affected by this legislation. We do not have sufficient information concerning commercial fishing activities throughout the country to know that the licensing system proposed would not contribute materially to the safety of operation of commercial fishing craft. There is, to our knowledge, no evidence that lack of physical capacity, maturity, or knowledge of rules of the road on the part of operators of commercial fishing craft have constituted a threat to safety on navigable waters. The imposition of such a licensing system on the commercial fishing industry would therefore be an unnecessary burden without hope of improving the safety factor in the industry. . . . Moreover, since there is often more than one operator for each boat, the number of individuals concerned and requiring licensing would be materially greater than the number of boats would indicate."

We are losing American men north of Malay and our proud Navy is on the prowl in Asian waters.

This is just another step in our National Policy of sympathy for the "underdog."!

We might well recognize that we call it "Sportsmanship" to "feel sorry" for the losing team. It is a national disgrace, so well illustrated by our traditional Life Magazine that it's "Good Luck to 'Sovereign.'"

GOOD LUCK
TO 'SOVEREIGN'

Millions of Americans -- many with no more experience of yachting than owning a dinghy on a warm water lake -- this week find themselves caught up once again in the vicarious enjoyment of the America's Cup races. The spectacle of rich men spending hundreds of thousands of dollars and working like stevedores to bring a graceful sailing vessel to perfection has a sort of neverland charm, a little like reading about royalty at play. And the long struggle over the ugly silver pitcher has been filled with drama ever since the upstart schooner America, sailing against 14 British competitors, first captured it in 1851.

In the intervening century the British, in their zeal to win it back, and the Americans, in their zeal to defend it, have often belied the old aphorism that "a gentleman can do business with anyone, but he can only go yachting with another gentleman." The early history of the races is filled with angry protests and claims of foul. The defending club has the right to apply its own set of rules and, taking advantage of this, in the old days, the New York Yacht Club did some blatant rule-jiggering to favor its boat.

Perhaps this kind of nonsense was understandable when twisting the lion's tail was still in fashion. Certainly the huge amounts of money involved -- it has been estimated gleefully that the British have spent more money trying to get the Cup back than they spent to repel the Spanish Armada -- have lent an air of desperation to the competition.

Modern races are run under far more equitable rules, but one unhappy by-product of the past has remained: the defense of the Cup, like the Olympics, has become all mixed up with national prestige. With each successful defense the thought of an eventual loss seems to become more horrendous. There is a saying that if the Cup is ever lost it will be replaced in the Club Trophy Room with the losing skipper's head. Sailboat racing, from junior regattas to Cup defenders, is already competitive enough without chauvinism.

John Chascsa

This year, after a grueling summer of elimination trials, the New York Yacht Club has come up with another superb defender in Constellation. In fact, an all-out effort has been made by both sides, and no one would want it any other way. At the same time, we suspect that a great many Americans are getting heartily bored with the 113-year U.S. monopoly over this event. We're sure the British are equally tired of their traditional role of gallant losers. For our part, we think it would be a good thing for the sport, and good thing for sportsmanship, if Britain's Sovereign sailed away with the Cup.

Only recently have reliable statistics for Ohio regarding casualties on the water been developed.

Life is so precious in America! But unfortunately our National Safety policy is based on fear and penalty. Fear and penalty is almost punitive in its concept. It works on Russian boys and German boys, many real American boys stick out their tongues at the U. S. Coast Guard. Why should we not try American methods before we cut off our youth from the man-building features of our last Frontier?

Incentives (or bonuses) work with Americans! Why shouldn't they be allowed to perfect themselves in small boat handling and get citations from the U. S. Coast

Guard, the Coast Guard auxiliary members and members of U. S. Power Squadrons whenever anyone does anything right (in Bristol fashion)on the water. Hobbies lead to perfection.

With the many millions of trips on the water in 1961, the total losses in connection with small boats were only 15. Loss of life in Farm ponds was 24. Loss of lives of those who work around the water -- longshoremen, construction workers and crewmen -- was 40 for the year. Why not license workmen first?

Fifty more years of aspiring to be the underdog and we will be the underdog. You never overshoot this mark!

Nobody can be greater than he aspires to be!

Let me tell you about an almost insignificant detail of the American Cup Race. Naturally, a solid steel rod can be just as strong as twisted wire stays for the mast. Besides, rod rigging has less windage than twisted wire rigging of equal strength.

Steel wire and steel rod has to be heat treated to develop highest strength. Ordinarily, heat treated furnaces are horizontal!

Rod, for logical reasons, has to be heat treated in a vertical furnace. The vertical furnace in

Baltimore is twice as tall as the highest vertical furnace in England; hence, the challenger carried twice as many joints in its rigging than the defender.

The sum total of all the unidentified technologies, plus the trials of competition through which the defender is selected, makes the defender unbeatable until we become a second-rate power by our so-called noble sympathies for the underdog, and withholding frontier experiences from our children.

There is another, quicker way to weaken our nation, and that is to remove from ready access the last frontier, namely, the waters of our state and our nation.

AMERICAN SONDERKLASSE RACERS WIN

In the third series of races between American and German Sonderklasse yachtsmen off Marblehead the first week in September, both first and second honors fell to Americans. The Taft Cup for the first boat winning three races went to the Joyette owned by W. H. Child, of Brooklyn, and the Draper Cup, for the boat winning most points in the first four races, went to the Ellen, owned by C. P. Curtis, of Boston. A further condition was that the same boat could not carry away both Taft and Draper prizes.

Many forces are at work on this: (1) fish nets prevent many cautious people from using the waterways after dark; (2) some authorities would like to have advance notice of this (such as yacht racing) for alleged safety reasons -- a race should call for a committee boat, there to render first aid; (3) City generated pollution is becoming a deterrent to many others.

And now comes our own folks who live inland, worrying about our safety, who propose to license operators on the water.

Yes, we are proud of our aggressiveness in the war in the Pacific, because many of our key men had small boat experience in their youth!

In 1902 Kaiser Wilhelm said "We cannot bring England to her knees until we (Germany) get familiar with the water." Then he proceeded to promote yachting in Germany embracing the Sonder Class, a type of racing sailboat later adopted in Massachusetts Bay and all over Europe.

His message had not yet hit home forty years later when the old yachtsmen of England removed 300,000 armed men from the beach at Dunkirk!

You know, until the impact of licensing has had its effect, our "Yanks" would cross the English Channel in a hop, skip and a jump!

Prepared at the writer's expense from Pension Funds and Social Security

as a compliment to . . . .

our clear minded legislators who can see through the haze the clear fact that in view of the relatively few casualties regarding the use of small boats, we should not take away the "HERITAGE OF AMERICA," namely, THE FREEDOM OF THE SEAS! ----

including rivers, ponds and lakes!

A. F. Wakefield
Vermilion, Ohio

John Chascsa

EXHIBIT "F"

Are you convinced that our water-contamination problem is being solved? It's growing worse! Do you realize that filth may be running out of your own faucets? Here are some grim facts

BY GEORGE LAYCOCK

ONE ultimate terror that even the Nazis dared not release in World War II was bacteriological warfare. They knew it would bring immediate retailiation and soon rage all over the world in a Black Plague of unimaginable horrors, for its vehicle would be the most innocent of all substances -- clear, fresh drinking water. But unlike our most barbarous enemies, we have for half a century or more been exercising no such forbearance. Cherishing our friends, our neighbors, and our communities, we have poisoned their drinking water and our own -- slowly, insidiously, and, of course, unintentionally. And,God save the mark, we are still doing it. Most Americans don't take pollution very seriously. There have been alarms and warnings, but we have been lulled into a dangerous complacency by the optimistic chirpings of certain public officials and scientists who are as reluctant as we are to face the truth squarely. One can imagine their prototypes in the great Chicago fire saying, "Come on, relax -- things are not as bad as they were. We have brought the fires in half a dozen houses under control."

Today we hear cheerful reports of how water pollution is being licked; that we are well on the way to a new day. This is pleasant, encouraging, relaxing, and untrue.

This is the truth: Pollution is deadlier than you think. The peril is closer to you than you think. And the time to repel it is growing pitifully short.

This pollution problem is not merely a matter of disappearing fish or of poisoned wildlife. It involves you, me, everybody -- our health, our survival.

All this is only too well known to many biologists, men frustrated by the unbelieveable apathy of the American people. I recently visited perhaps the greatest of these water-pollution scientists, an angry man named Dr. Clarence M. Tarzwell. He should need no introduction, but for the record he is chief of the Aquatic Biology Section, Basic and Applied Sciences Branch, U. S. Public Health Service. A biologist of worldwide fame, he was recently awarded a most coveted decoration, the Aldo Leopold Memorial Award Medal for 1963.

You may, however, need an introduction to such horrors as sludge worms and rat-tailed maggots. Revolting names -- but not as revolting as the creatures that teem in the water that you and your family may soon be drinking.

In Dr. Tarzwell you find no high-domed scientist, aloof and disdainful of man, working in a well-ordered laboratory sheltered from the turmoil of ordinary life. Tarzwell's consuming interest is the welfare of his fellow man. He speaks directly and to the point, disdaining the equivocations, the cheerful nonsense, of so many highly placed men who prefer the opium of optimism to the sweaty, often-discouraging battle to end one of America's greatest menaces.

Clarence Tarzwell is angry because the nation seems unwilling to come to grips with a national shame, a vast cesspool of dirty water that is piped into the homes of so many Americans.

"Oh, we're polite and civilized," he says. "We wouldn't think of throwing our garbage into a neighbor's backyard. That would be socially unacceptable. But who is to know -- even we -- that we are running our sewage into his drinking water?"

As Dr. Tarzwell talks about our apathy his temper grows warm, his sentences come fast, his voice rises, and his hand pounds the table. "Water is life-giving and life-sustaining," he says, "yet we have taken it for granted, we have wasted it, and we have used it to receive our wastes."

He knows that this is now a problem for all America, though he started fighting pollution more than thirty years ago in some of Michigan's finest trout streams. Logging operations had fed silt into the streams. The Michigan Conservation Department hired Tarzwell, fresh out of college, to work out a solution.

Among other things, Tarzwell studied the movement of the water in the streams where trout had dwindled, and the matter it carried along with it. He saw that sand had covered the gravel beds where trout had once spawned, and he decided that this sediment could be washed away by water just as water had put it there. To accomplish this, he devised the first trout-stream improvement structures, the types of deflectors and dams still being used. His construction crews were ex-lumberjacks, and the youthful biologist learned how to use a double-bitted ax and to swing a sledge.

"We didn't have waders," he recalls, "and the water was usually about 52 degrees." He often worked in the stream from morning until night, but he was rewarded; his structures did clean off some of the gravel beds and the trout populations began to show an increase. This attracted the attention of trout fishermen everywhere, and Tarzwell was soon rehabilitating private streams in many parts of Michigan.

Later he supervised all trout-stream improvement.

This was the primary reason for choosing the Lockport forebay within the Sanitary District as the test location. This area is described in a subsequent section.

It is believed that the method of dimensional analysis could lend assistance to future studies insofar as comparison between systems would then be possible. It would certainly be a necessary approach wherever model studies are undertaken.

John Chascsa

A DETERMINATION

Science, left to its own development, as it is in government, suffers from the lack of initiative contributed to it normally by industrial connections. Industrial management which devoted itself to the answer of research for the grandchildren of stockholders would be made away with, because the problem is to help and aid the taxpayer or stockholder now living.

Biologists say the "fish kills" in Lake Erie most often result in the lack of oxygen in the water. Let's put some in it!!

Somehow, a "crash" program sounds reckless, but nothing is more shamefully wreck-causing than the continued measurements and surveys of a situation, many facts of which are well known.

Lake Erie has an area of five million acres. If the five million acres were land and no more productive than Lake Erie, this land-minded nation of ours would have dams all over Indiana, Michigan and Wisconsin to provide irrigation for this area.

Dr. Langlois, the senior biologist of the Great Lakes, in his letter of April 30 (Exhibit A), is always ready with an idea. Let us go to the third idea in his letter from which I quote. He refers to a mechanical areator:

"It could work out of Toledo in Maumee Bay and along the south shore to Locust Point, and it could be used out of Monroe on the Raisin River. Might even be used where the Detroit River discharges into Lake Erie with the total burden with sewage from Detroit and on each of the Lake Erie Islands."

While he admits he is not too sure of the results, I am sure he has overlooked the Research Paper No. 1 given at the Water Pollution Control Federation in Seattle last year, which measures dissolved oxygen production of mechanical areation in the Chicago Drainage Canal run-off. (Exhibit B)

Besides that, he has the experience of the Springfield Outdoor Club reported by Clark Patten. (Exhibit C).

The putrefaction of sewage of Detroit, Monroe and Toledo takes oxygen out of the Lake. Let's replace it then and there!!

Let our State Agencies participate in Federal grants and put diesel-driven aerators on the twenty-two islands in the Lake. Since Lake Erie is international in character, only a few less oversize plows to Persia would pay for our own improvement program.

We are living in a technological and scientific world, the effects of which we feel spreads the process of polluting of our water supplies. By introducing specific poison in the Mississippi and St. Louis, traces of the same impurities can be found at New Orleans, in measured time afterwards.

Such a phenomenon is foreign to the Great Lakes Basin, since in the Mississippi a mass of poison water goes down the river basin like a train of cars! If such industrial pollution reaches Lake Erie, the dilution meeting with a mass of water represented by five million acres, with the churning affect of wave action and dispersion by natural currents, brings about dilution impossible to measure or even conceive.

When pollution is mentioned, some industrialists shake in their bones, without realizing the dilution with any one of the Great Lakes overcomes many local complaints, except when the outflow of industry takes oxygen out of the water when added to the silt washed into the lake from the baring soil of the winter season -- especially pronounced in the growing of corn.

The study of this lake problem is known as "ecology." While many members of the Lake Erie Resource and Recreation Council are merely laymen, some of our numbers have served on boards of trustees for engineering and scientific research programs of considerable eminence.

We could do the same for Lake Erie when our land-minded officers are ready to attack the problem.

EXHIBIT "A"

THE OHIO STATE UNIVERSITY
COLUMBUS 10, OHIO

April 30, 1964

Mr. A. F. Wakefield
Wakefield Lighting Division
Wakefield Corporation
P. O. Box 195
Vermilion, Ohio

Dear Mr. Wakefield:

Your courtesy in sending a copy of Yeoman's "Picture Report on World's First Attempt to aerate a Flowing River", is sincerely appreciated. I have seen only news articles about the experiment, so am glad to have this close-up of the machine.

As you know, I am much concerned about the problem of summer stratification and stagnation of the lower waters of the critical western end of Lake Erie, and have been urging action by sanitary engineers. I have stated my opinion that first efforts should be directed towards helping the upstream cities develop effective economic methods of complete treatment of all used water before returning it to the tributary rivers or directly to the western end of the lake. Second efforts, if the flow of enriching materials is continued, should be aimed at keeping the effects of such pollution at the western end and not let it spoil the rest of the lake.

These second efforts, following standard methods of sewage treatment, would consist of methods for helping the water of the western end digest the materials added to it, and retarding outflow eastwards until digestion has taken place. I have suggested that a levee, supporting a cross-the-lake highway, be built from Catawba Point across the series of Bass Islands to Pelee Island, and that a bridge be constructed over the Pelee Passage. I have suggested also that experiments at aeration be tried in the zone used by the Erie Ordnance depot, using windmills on rafts with air-pumps and perforated plastic hose on bottom. The transference of sludge from shoals out from the south shore onto land, back of the present sand bars, would make valuable farm land which would be worth saving by sea wells and jetties.

The possible use of a Yeoman's Floating Aerator would be worth considering. It could work out of Toledo in Maumee Bay and along the south shore to

Locust Point, and it could be used out of Monroe on the Raisin River. It might even be used where the Detroit River discharges into Lake Erie, but I doubt if it could be used where the Detroit River discharges into Lake Erie, but I doubt if it could be used in the open lake, excepting possibly within easy access of the good harbor at Put-in-Bay. I have no way of judging whether or not the value received from such usage would make the cost of such operations a good investment, but the restoration of Lake Erie to healthy condition is an objective worth this kind of a gamble.

You may quote this letter in its entirety only, but you have my permission to use it en toto anyway you may wish.

With kindest regards.

Yours sincerely,

THOMAS H. LANGLOIS

Professor

THL/skd

p.s. Why not organize the "Friends of Lake Erie"?

John Chascsa

EXHIBIT "C"

DIVISION OF WILDLIFE

XENIA -- After experiencing a heavy winter-kill of fish in its lake, a year ago, an outdoor club in the Springfield area has done something about it, according to William Zarbock, fisheries biologist with the Ohio Division of Wildlife.

The Van Dyke Club, with grounds and headquarters east of Springfield, installed a 3/4 horsepower electric motor, a two-stage compressor and 1,000 feet of weighted hose to keep an area in the lake free of ice. Air bubbles emanating from the hose circulates the water from the lake bottom and keeps a large section of the 11-acre impoundment open.

(more)

Clark Patton, Springfield, member of the fish committee, said the results had been quite favorable this winter. During the coldest weather, when ice on most of the lake was 10 inches thick, an open area was maintained about 500 feet long and 250 feet wide.

"After it rained and the ice began thawing, one whole end of the lake opened up," said Patton. "While other ponds and small lakes were still covered with rotten ice, we had ducks swimming around on our lake. The air bubble rig not only helped the fish, but aided migrating ducks this first year it was in use."

John Chascsa

EXHIBIT "E"

Lunch was served at the Vermilion Yacht Club, after which Ray Full, acting as temporary chairman, read a letter from Mr. Ross Leffler, Assistant Secretary of the Interior, U.S. Fish and Wildlife Division, in which he stated that sport fishermen, commercial fishermen, and boating enthusiasts all have a different interest in Lake Erie, and commended the group for the cooperative effort being made, through meetings such as this, in creating a better understanding of each other's problems.

Mr. Olds introduced the members of his staff and explained their duties. He stated that, through the courtesy of the Ohio State University, Dr. Thomas Langlois now serves the division in an advisory capacity.

Mr. Carbine then introduced the members of the Bureau of Commercial Fisheries and stated that the bureau became active in Lake Erie because it had been asked to do so. He pointed out that the Lake Erie Fish Management Committee, made up of representatives from all states bordering on Lake Erie and the Province of Ontario, Canada, was formed to gain more knowledge of fish life and to pool all of the knowledge obtained by the various states and

Canada. Mr. Carbine pointed out that the Bureau of Commercial Fisheries is flexible and can go into international waters and the waters of surrounding states. This program has been under way about two years and while a great deal of valuable information has been obtained through the combined efforts of the various groups much remains to be learned. He stated that they still are unable to explain the tremendous fluctuations in the various species.

During the course of informal discussions it was learned that large areas in Lake Erie were found to have low oxygen content, which is harmful to fish life. Mr. Berry asked what effect this has on fish and Dr. Moffett explained that fish must breathe the same as humans. He stated that fish have no intelligence and for that reason do not know when to leave an area where the oxygen content is too low for their survival. As a result many die. He further stated that the may fly has been practically wiped out because of low oxygen content in the lake.

Mr. Murdock asked the reason for this low oxygen condition. It was explained that when the lake is calm for extended periods the biological demand is very high and oxygen is used up without being replenished.

Bacterial break-down of dead fish also consumes oxygen.

Selden said that Lake Erie Walleyes hatched in the spring of 1959 now measure 8.1 to 12.2 inches, the average being 10.25. He said that he personally had measured 468 of 975 walleyes observed in 19 nettings by commercial fishermen on October 23, off South Bass Island. Van Meter reported on 11 net liftings off Kelleys Island, the same date when 399 measured from 8.2 to 11.9 inches. All fish were returned to the lake. The walleyes won't influence commercial fishing until next fall when the legal length limit of 14 inches probably will be reached, Van Meter said. Sport fishing anglers, however, will get their chances during the summer, before many reach the 14-inch size.

John Chascsa

THE OHIO STATE UNIVERSITY

RESEARCH FOUNDATION

February 15, 1963

Mr. Al Wakefield
Wakefield Lighting Division
Wakefield Corporation
Vermilion, Ohio

Dear Mr. Wakefield:

This is in reference to your note addressed to me and the attachment concerning pollution of Lake Erie.

I am glad to have this brought to my attention, although your purpose is not entirely clear to me. I can say in general, however, that we would all agree the problem of water pollution is an important one. We have dealt with water supply, use and treatment from time to time, in one way or another, in our little publication SCIENCE AND APPLIANCE, and no doubt will have occasion to do so in the future. I might add that I am personally a consultant to the Public Health Service in its waste water treatment program, and by that means, too, am kept fairly well up to date with problems and activities in this field.

John Chascsa

Sincerely yours,

ORAM C. WOOLPERT, M.D.

EXECUTIVE DIRECTOR

OCW-fh

LAKE ERIE CLEANUP COMMITTEE
NEWPORT, MICHIGAN

May 21, 1962

Mr. Lawrence Gubow
U.S. Attorney for the
E. District of Michigan
Federal Bldg.
Detroit, Michigan

Dear Sir :-

On April 12, 1962, a resolution was made and supported to file a formal complaint with the U.S. District Attorney, against the Army Corps of Engineers, for permitting the pollution of the Detroit river and for deliberately spreading pollution in Lake Erie, by dumping the dredged sludge into the waters of Lake Erie off Pointe Mouille, thereby creating a nuisance and health hazard in this area.

It is a known fact that the Corps of Engineers is aware of the contamination present in this waste. And it is also a known fact that the Joint Waterways Commission, Water Resources Commission, Conservation Department, the County, State, and Federal Health Departments, as well as the similar agencies of the State of Ohio, could and should have stopped this action when it first came to light several years ago.

This is a deliberate act of indifference on the part of the agencies mentioned and especially the Army Corps of Engineers who are delegated the task of policing any and all public streams and lakes as described in Federal Laws, (Title 33, section 406-407, page 5833) and further on page 5835 of Title 33, section 411), explains the penalty for wrongdoers, as well as the duty of the U.S. Attorney and other Federal officers.

The remarks submitted by Colonel Pfeil, to the Conference held in Detroit in March were very enlightening and prove that the danger of a serious situation exists in this area and that it is more or less the responsibility of the U.S. Congress and of the States of Michigan and Ohio to see that the protective laws be strictly adhered to by all concerned and that your office vigorously prosecute any and all offenders.

The State of Ohio as mentioned in this complaint is guilty of the same action by creating a health hazard and nuisance (off the shores of the Community of North Shores on Lake Erie south of the city of Monroe,) through the dredging by the Corps of Engineers, of the Maumee river in Toledo, Ohio.

No dumping should be permitted, into one of the finest bodies of water that the good Lord created for the pleasure of man, at any time or under any circumstances.

The action requested by this group is not singular as witnessed by the many complaints filed with the U.S. Health Department on many occasions in the past twenty years and prior to the Conference in Detroit.

Hoping it will not be necessary to contact you on this matter in the future.

To a successful and mutually beneficial conclusion of our problem.

Respectfully,
John Chascsa, Chairman

Copies sent to:

Secretary of U.S. Army
U.S. Army Corps of Engineers
U.S. Department of Health, Education, and Welfare
U.S. Supreme Court Justice Douglas
U.S. Senator Hart
U.S. Senator McNamara
U.S. Congressman Meader
International Joint Waterways Comm.
Mich. Water Resources Commission

John Chascsa

Mich. Conservation Dep't.

Governor John Swainson

State Senator Porter

State Representatives:

- William C. Sterling
- William Copeland
- Albert Petri
- William H. Thorn

Michigan State Health Dep't.

Monroe County Health Dep't.

Monroe, Wayne, Washtenau, County Bd. of Supv.

All Lake Associations, and Downriver Communities.

Paul Findlay, Toledo, Ohio

Ohio State Congress

LAKE ERIE CLEANUP COMMITTEE
NEWPORT, MICHIGAN - 48166

October 11, 1963

Honorable George Romney
Governor of the State
of Michigan
Lansing, Michigan

Dear Governor:

In reply to your letter of October 4, permit me to thank and commend you for the interest and concern shown in the problem of pollution facing the people of the Detroit and Lake Erie Area.

In your letter, you stated that all angles have been surveyed and analysed as to health problems, contamination hazards, and possibly a typhoid epidemic or worse for the City of Wyandotte, Great Lakes Steel, Hannah Furnace, Ford Motor Company, Detroit Edison Company at Conners Creek, DECo Delray Plant, River Rouge Plant, Trenton Plant, City of Wyandotte Water Plant, Riverview, McLouth Steel at Trenton and Gibralter, City of Trenton, City of Gibralter, Rockwood (East), Pointe Mouillee (Game Reserve), Estral Beach, Stoney Pointe, Bay Crest, Brest Bay Area, Sterling State Park, the City of Monroe water intake, Consolidated Paper Company, Ford Motor Company of Monroe, and River Raisin Paper and Union Bag Company of Monroe plus all the other municipalities such as Luna Pier, Erie City of Toledo and many other communities along Lake Erie. On the Canadian side: the City of Windsor, Sandwich, LaSalle, Leamington, Amherstberg, plus many others. As you no doubt realize by now, many lives on both sides of the international waters may be affected and, as I have mentioned, disease is not a discriminator and may strike any of us. Is this what may come of giving the City of Detroit permission to dump raw sewage into the waters that we use for so many normal and every-day functions? Will this be something we can look forward to in another forty years? When have the other valves in question been repaired? In the appeal to the State Health Department and Water Resources Commission, it was pointed out that many millions of dollars worth of damage could be expected if this permission were not granted and the possibilities of health hazards would be enlarged, as well as the ultimate consent to dump or redevelop, replan, and undo all the millions of dollars worth in interceptor sewers -- not to disposal plants, but to the Detroit River.

Why does the City of Detroit have to take on more sewers from Dearborn, Macomb County, and Oakland County, and have to ask permission to dump raw sewage into a Public Detroit River Stream? In "Power and Fluids" publication (winter of 1955) a plan of the Detroit sewer system appeared and it shows many pumping stations but only one disposal plant. Wouldn't it be more prudent to install treatment plants instead of interceptor sewers and pumping stations?

Do we have to read in the Detroit News and other publications (such as: the Monroe News, Toledo Blade, and Cleveland Plain Dealer) that "Detroit Asks Permission to Pollute Detroit River", July 3, 1963; on August 23, 1963 "Pontiac Water Center Hailed as Link to Detroit"; August 24, 1963 "City of Detroit Offers Sewer Deals to Suburbs"; Why? You can get the answer at the end of the July 24, 1963 press article, "Pollution of Clinton (which empties into the Lake St. Clair) is an Added Threat to Detroit's Water Supply". Isn't that something to get excited over? After you have read the rest of the material I am enclosing, ask yourself if we are unreasonable in wondering why you may permit such action when it takes away all the incentive for communities such as ours to try to build and expand.

We used to drink Lake Erie water without filtering or processing, but now, it is almost out of the question because of the cost; why? Again, I refer to the news clippings and the testimony given at the 1962 conference held at Detroit by the U. S. Public Health Services. I ask, are we to be known as a State that is a "Water Wonderland" or a "Water Blunderland"?

On August 30, 1963 an article appeared in the Detroit News, "State Upset by U. S. Call for River Pollution Talks"; as you can see, we could go on and on. This is why I feel it would be of the utmost benefit to all concerned if you would call a special meeting for those that I have mentioned (and any others who may be interested) within the next two weeks. I hope the meeting can be held in Monroe, or where the Lake Erie Cleanup Committee started, (Estral Beach or Newport).

There are many other ways this action can be averted in the future. Every means should be explored to protect the health of all the Michigan Citizens not just those of Detroit.

Hoping to have a favorable reply in the very near future, I remain

Sincerely,

John Chascsa, President

Lake Erie Cleanup Committee

STATE OF MICHIGAN
OFFICE OF THE GOVERNOR
LANSING

April 13, 1965

Mr. John Chascsa, President
Lake Erie Cleanup Committee
Box 156
Newport, Michigan

Dear Mr. Chascsa:

This will acknowledge your letter of April 5, 1965,relative to the forthcoming meeting at Cleveland on water pollution in Lake Erie.

While I am intensely interested in the well-being of Lake Erie and plan to attend or be represented at the meeting, I should point out that the arrangement has been solely by Governor Rhodes and my position will be that of an invited conferee.

As to attendance by Canadian representatives, I understand that Governor Rhodes has invited the International Joint Commission, which will bring in Canadian interests and also indicates that he has quite possibly asked other Canadian authorities also.

I am looking forward to this conference with much interest and am confident that it will contribute to the advancement of our mutual interests in this great international water resource.

Sincerely,

GEORGE ROMNEY

John Chascsa

POLLUTION

EVERYBODY'S FIGHT

By JOHN CLARK HUNT

One would think that the Pacific Northwest, a region blessed with shining streams, rivers and lakes, would have clean, pure water for every purpose. True, the high country snowbanks are still clean and pure. Rain falls on millions of acres of national forests and trickles down to feed these streams and rivers. This water is clear and clean. But what happens to it after it leaves the high beauty of the Rockies and the Cascades and the shining green of the forest?

As an example let's trace the Snake River to see what man has done to it. The Snake, rich in history and the lore of Indians, mountain men, and the wild frontier, is born in one of the spectacularly beautiful spots of the nation. It begins at Shoshone and Lewis Lakes in Yellowstone National Park between Yellowstone Lake and Jackson Hole. At first it is a wild, sparkling mountain stream. Then it enters Jackson Lake, emerges larger and stronger, and roars down a vicious canyon where Wilson Price Hunt and his American Fur Company companions, known as the Astorians, almost died of starvation and exertion in 1811 when they tried to follow the canyon west to establish the trading post at Astoria, Oregon.

In its mad race the Snake soon reaches lower elevations and the valleys of Idaho. Here pollution begins.

A Public Health Service report shows that approximately 550,000 people live in the Upper Snake River Basin. In 1960, fifty-nine towns and cities and one hundred fifty-six industries were discharging waste into the Snake and its tributaries. No doubt there are more by now. Only eighteen percent of these had adequate sewage treatment facilities, and pollution was increasing every day. In fact, the pollution load pouring into the Snake was equal to the waste from a population of 2,400,000. Most of this was caused by twenty-four food processing plants.

Further down the river in the Lewiston-Idaho area the situation is as bad or worse. At a water pollution meeting at Lewiston early this year it was reported that several towns were adding to the pollution load but these were of little consequence compared to the waste poured into the Snake and Clearwater rivers by food processing plants and particularly by Potlatch Forests Inc. This one wood products plant, according to a statement by the Public Health Service, is discharging industrial waste and sewage from its work force equivalent to the raw sewage from a population of 299,000 people.

Murray Stein, Chief of the Public Health Service Water Pollution Control Enforcement Branch in Washington, D. C., told the conference that a Federal study of the pollution showed it to be of an interstate nature and therefore subject to abatement under the Federal Water Pollution Control Act. He said that the Public Health Service would work with Idaho and Washington in extending the study with a report to be completed and available by January 1, 1965. After that date a reasonable time -- perhaps two years -- would be allowed for the completion of water pollution abatement in the area.

The Snake River empties into the Columbia, the river to the West, which was the home of more than a score of Indian tribes and was the canoe and pirogue highway from the Pacific to the great inland country of the United States and Canada, the trail of Lewis and Clark, Wilson Price Hunt, and Captain Bonneville. The Columbia is a big river. Its current was fast and its waters were alive with salmon and steelhead, the big sea-going trout -- until the white man began building dams to change it into a series of lakes and loaded its tributaries with many kinds of pollution.

The Yakima River Basin is another pollution problem. It is an important tributary of the Columbia, draining about 5,000 square miles east of the Cascades in Washington. Some 200,000 people live in the Yakima basin. All of the communities have sewage treatment facilities and most of the industries not connected to municipal sewer systems have some type of water treatment of their own. But in spite of the facilities, which have all been built in recent years, pollution is serious and the low percentage of oxygen in the river below Yakima often becomes critical.

THE LOWER COLUMBIA IS A SEWER

On down the Columbia there is Camas, Washington, with its paper mill; and then the cities of Vancouver and Longview and several small towns with woodworking plants. The Willamette River enters from the south carrying a load of pollution from Portland, Oregon City, Salem and Eugene, Oregon.

The Columbia from the Camas-Vancouver area and the confluence of the Willamette downstream to the Pacific Ocean is a sewer. Commercial fishermen often find that the goop of pollution loads their nets until they can raise them only with extreme difficulty. That is how bad pollution has become in the lower Columbia. It is as bad, or worse, than it has ever been. This enormous mess will be cleaned up only when strong measures have been taken and agreements honored.

In 1959 the Willamette River at Portland was described in this way--"One swallow would contain enough germs to make a person deathly sick." There were eighty outfalls pouring untreated sewage and commercial waste into the river. The Public Health Service and the Oregon State Sanitary Authority got tough. They told Portland to live up to her responsibility or face a suit in which she knew she could not possibly defend herself. What has been the result? Many millions of dollars have been spent building sewage treatment plants. But to date not enough have been built for some untreated sewage and some industrial poison is still drained into the river. The condition of the water is still considerably below that of the Sanitary Authority's minimum standard.

WORST POLLUTION PROBLEM

What appears to be the worst pollution

problem in the Northwest is that of Puget Sound. Many streams and rivers flow into this large estuary. They carry waste from numerous towns, cities and industries. With the best of cooperation and dedicated effort the condition would be difficult to control, but with aggravated stalling it is serious.

A report published in 1962 by the Public Health Service and the State of Washington Pollution Control Commission states--"Seven pulp and paper mills in Puget Sound and the Strait of Juan de Fuca area are contesting the Wasington Pollution Control Commissions's order requiring the mills to control the pollution created by them."

The report told of the efforts made by state officials since 1940 to bring about an abatement of pollution at these seven mills. But the Commission is patient. It says a reasonable solution can be found and points to the record. Of the 532 industrial plants subject to permit regulations in the Puget Sound-Juan de Fuca area 493 are in compliance with effluent requirements established by the state--an average of 93 percent.

A last minute check with the Public Health Service indicates that prospects do appear better for solving the pollution problem on both the Snake River and on Puget Sound.

It has been reported that the State of Idaho will take action to enforce pollution control at the industrial plants along the Snake. It is expected that waste disposal facilities will be built within less than two years to prevent solids from reaching the river.

The Washington Pollution Control Commission has now issued operating permits to the seven mills which have been problems for more than twenty years. The State says that the mills have made some improvements and are developing plans for constructing waste disposal facilities. In the meantime the Public Health Service and the Washington Pollution Control Commission are continuing a study of Puget Sound pollution. The study has been underway for over two years and has cost the Federal agency $780,000 with another $300,000 to be spent in fiscal year 1965.

ACTION REQUIRES SCIENTIFIC PROOF

In a suit involving two state of Washington corporations, Olympia Oyster Co., Inc., vs. Rayonier, Inc., the U. S. District Court judge said in dismissing the case last February, that he was convinced beyond a reasonable doubt that the evidence presented contained no issue of fact for the jury to determine. The Rayonier case involved dumping sulphite waste into Oakland Bay. Rayonier, however, like many companies, had a state permit to discharge a certain amount of waste per week into the water; the court said that the plaintiff failed to meet scientific standards of proof to show that Rayonier had exceeded its waste quota.

A word of caution should be added here. Often emotion-charged accusations or a tendency to go into court with a lack of proof or with unsubstantiated charges hurts the conservationists cause. Too often newspaper headlines indict, try and convict the accused company in one terse headline; too often an emotionally aroused public assumes that if the company has been hauled into court it must be guilty of a violation. No one contends, of course, that allowing a certain amount of pollution of our rivers and streams is good; but in the eyes of the court, laws which allow such "partial pollution" are valid, and if the violation is unproven, the court must uphold the law in favor of the defendant.

SEVEN MILLS CAUSE 58.3% OF THE POLLUTION

The latest action to abate serious and longstanding pollution problems in the Northwest was taken in May 1964, this time by the Oregon State Sanitary Authority.

After careful study the Authority released a 74 page report showing that seven pulp and paper mills are causing 58.3 percent of the pollution in the Willamette River, the principal stream in western Oregon and the drainage of the Willamette Basin in which the bulk of Oregon's population lives.

The report predicts that if the mills continue to allow their loads of waste to reach the river after the cities and communities have completed their sewage disposal plants the mills will account for 82.6 percent of the pollution by December 1966. These were the mills listed as offenders:

Crown Zellerbach Corp. (a sulphite plant), West Linn; Publishers Paper Co. (sulphite), Oregon City; Spaulding Pulp & Paper Co. (sulphite), Newberg; Columbia River Paper Co. (Oregon Pulp and Paper), (sulphite), Salem; Crown Zellerbach Corp. (sulphite), Lebanon; Western Kraft Corp. (a kraft plant), Albany; Weyerhaeuser Company (kraft), Springfield. The sulphite plants are listed separately because their pollution in the Willamette is reported to be much more serious than that of the kraft plants.

During August and September of 1963 a minimum daily dissolved oxygen content of only 2.0 parts per million was recorded in Portland's harbor. The minimum permitted by Oregon's strong pollution law is 5.0 parts per million. Slime growths were found to be excessive. So were fiber and other settleable solids contained in pulp and paper mill effluents which have created bottom sludge deposits. It is obvious that salmon and steelhead runs cannot be maintained nor water recreation continued in such filthy water. Concern is felt for the 70 million Chinook salmon planted in the Willamette during the spring of 1964 by the State Fish Commission and the U. S. Fish and Wildlife Service. It is doubted that these fish can return and spawn successfully during 1966, 1967 and 1968 unless the water quality has been improved.

The Oregon State Sanitary Authority is holding a series of meetings with the pulp and paper companies to learn the steps each mill can take to reduce pollution to meet the required water purity standard. A date for compliance will be set after the meetings are concluded.

WATER NEEDS FOR THE FUTURE

The question is -- what are we really doing to stop it?

Our population is growing rapidly. In 1900 there were 76 million Americans. In 1950 there were 150 million. In 1960 there were 180 million. By 1980 it is expected that our population will reach 260 million. Obviously the more people there are the more water we have to have and the more sewage there will be. In the past 100 years water consumption in the United States has risen from a few gallons a day per person to about seven hundred gallons daily per person. Today the nation is using approximately 323 billion gallons of water daily. Of this amount, industry uses 160 billion gallons; irrigation, 141 billion; municipal, 22 billion. In 1980 it will jump to 597 billion gallons per day, with industry using 394 billion; irrigation, 166 billion; and municipal, 37 billion.

It takes an ocean of water to maintain our jobs--1,400 gallons to produce a dollar's worth of steel; nearly 200 gallons for a dollar's worth of paper; 500 gallons to manufacture a yard of wool and 320 gallons to make a ton of aluminum. Water quality and quantity requires careful planning and only clean water will do for most of our needs. So, the water supply must be protected to keep it clean or it must be treated each time it is used until it is clean.

WHAT TO DO?

John Chascsa

Anyone who has taken the trouble to check knows that it will cost a fantastic amount of money to cope with the tide of pollution. But if we can spend billions to put a man on the moon we can afford clean water. First, the nation will have to exert itself to wipe out the backlog of pollution and start even with the problem. Then, each year, it must build new facilities, expand and rebuild old ones to keep abreast of the increase in population and industrial expansion.

One thing that we must not tolerate is the building of new towns, subdivisions or factories without adequate sewage facilities to guarantee that they will not add to the pollution burden. We know that the job can be done. The whole job--for old towns and cities and factories as well as the new ones. Since 1965 when the first Federal water pollution control legislation was passed, about 4,500 communities have built sewage treatment plants. Others are under construction. Federal grants of approximately 400 million dollars have been approved. And for each Federal dollar granted, local communities have spent five dollars for waste disposal.

THE BRIGHT SIDE OF THE COIN

The outstanding example of successful cooperative pollution control is the work of the Ohio River Authority. States, cities, town, villages and industries have worked together to clean up the filthy Ohio river from Pittsburgh to the Mississippi. They had to do it if they were to continue to use the water and live beside the river. Now, they are proud of the job they have done.

In the Pacific Northwest another pollution headache shows some promise of finally being solved. In the very heart of the city of Seattle is beautiful Lake Washington. Like some other waters in the fast growing region it became polluted and infested with algae. A metropolitan organization was formed a few years ago to clean up the lake. It is succeeding in spite of the fact that all towns and communities are said not to be co-operating. In ten years Seattle expects its big, jewel-like lake to be clean. It will be an important victory.

The rest of the country must do a similar job. The pressure for clean water will never stop. It cannot. Conservation groups, including The American Forestry Association, report that pollution is the topic most on the minds of many of their members today. In days gone by, the AFA could meet in almost any part of the country and talk forestry and only forestry. But not any more. Today, more and more members are saying, "Fine, fine -- but what are you doing about stream pollution?"

John Chascsa

CITY OF DETROIT
DEPARTMENT REPORT &
INFORMATION COMMITTEE
WO 5-4200 EXT. 7250
TOM McPHAIL

CONSTRUCT

Two projects make up the major portion of the $184 million, 40-year sewer construction program outlined Thursday by the National Sanitation Foundation.

The construction program was part of a comprehensive report on future sewerage needs of the six-county Detroit area delivered to a special meeting of the Supervisors Inter-County Committee and Detroit area business and community leaders at the Veterans Memorial Building.

The Foundation also recommended development of $65 million worth of additional sewage treatment facilities after 1975.

The largest sewer project is the North Interceptor, a 112-mile network of pipe that would collect all sewage from Macomb County and from part of Oakland County.

It would be connected to the Detroit Department of Water Supply (DWS) sewage treatment plant at 9300 W. Jefferson.

Communities that would be served by the interceptor include Mt. Clemens, Romeo, Utica, Warren, Rochester.

Estimated cost of the interceptor and five companion pumping stations was set at $124.2 million. The report suggested that the first portion should be completed by 1966 and the entire network done by the year 2000.

The other major project is the Huron River-Hannan Road Interceptor.

It is recommended to serve much of Washtenaw County--including Ann Arbor and Ypsilanti--and parts of Wayne and Oakland Counties.

The Foundation recommended that planning for the interceptor should be finished by 1970 and construction completed by 1990.

Total cost was estimated at $28.6 million.

A major sewage treatment plant should be developed at the outlet of the Huron River-Hannon Road Interceptor, the report urged.

Cost estimates for the plant ranged from

$11.5 million to $37.1 million, depending on capacity.

Additional capacity also was recommended for the DWS treatment plant. It now receives some 80 per cent of the sewage flow in the metropolitan area.

The report urged expansion after 1975 at an estimated cost of $53.5 million, noting that an improvement program now in progress will provide sufficient capacity until then.

The report stated that local governments should keep the responsibility for building local lateral and sub-collector sewers.

John Chascsa

"THE RAPE OF A WATER WONDERLAND"

A gruesome title, no doubt? But true.

In the July 1962 issue of the Readers Digest there appeared an article on page 151 titled "The Rape of our Southern Mountains."

Every American should have read it. Every voting American should have read it. Every voting American should have remembered it. Every penny-budgeting housewife and sportsman and every conscientious Christian should have read it and done something about it, even if he only hung his head in shame.

To commercialize in the gullibility of poor hills folks is not Christian. To abuse the stature of being a businessman by destroying the life blood of those of our citizens through so-called "shrewd business manipulation" is certainly un-American and un-Christian.

When we, as individuals, resign ourselves to a state of deplorable complacency by accepting the "do-nothing" bureaucrats who spend our money, as well as set the amount of tribute we must pay to maintain these bureaucracies, as something we have no power or say-so about, then we are lost.

John Chascsa

We elect men to represent us in various phases of Government to do our bidding and to help us determine the best course to follow. Unfortunately, only a very few take their oath seriously. Very few attend all sessions that are held in Washington and in our State and county legislative capitols.

We have created agencies and commissions and various study groups, and, frankly, I believe the committee studying the sex life of the gnat is about the most capable of submitting an acceptable report -- if there is such a committee.

Since the late 1870's we have had one after another anti-pollution committee created. We have had a biological study going on in the Great Lakes for many years, with geologists, biologists, conservationists, health authorities, and many, many more who have compiled tons and tons of reports. In the past forty, fifty or sixty years we have bragged of our intelligence and know-how, to do more and better than any other nation on earth. We have proven that man can fly, send rockets and missiles any place on earth and probably to the moon, and we haven't skimped on the cost of these experiments, in spite of the staggering amount. Yes, we should be proud of our so-called accomplishments. We should be very proud and very humble in dealing with our less fortunate neighbors, also, no matter who they are.

The trip-to-the-moon commission has never been denied their request for funds - these are always available.

The Committees on Pollution study, water, health, public safety, sanitation and many environmental aspects of our well being have been belittled and slighted and pushed aside after almost a whole decade of studies, until today we suddenly realize the importance of safe clean water. Of what earthly use are all the facts and figures gathered in the past fifty years to us? We permit lobbyists to legally have our laws changed to suit their clients wants. We disregard the Riparian Rights of the little guy, (who is all important at election time) and forgotten after election.

In 1961 Governor, John B. Swainson was asked to call the United States Public Health Service in to study the Pollution problem in the Detroit River, Lake Erie, Lake St. Clair, Huron River, River Raisin and many smaller tributaries leading into our lakes. What was the real reason? Did someone feel sorry for the plight of the residents along the Detroit River, Lake Erie, or was there another reason? Did the pipe dream of the Detroit and Wayne County Planners back fire when they found their plan for another Italian Venus type of island chain, in the Harsens Island area,filtered silt into their water supply station at Belle Isle? Remember the screaming public demanding to know what went wrong? Why the bad taste? Why the industrial waste, etc? Was this a way to get Federal Funds to pipe water from Lake Huron? Perhaps it should be interesting to note the chain of events prior to and after the S.O.S. for all the people under Federal jurisdiction to come to the aid of the large Metropolis of Detroit. O yes! we all pay Federal taxes and only the large cities and those with pull are worthy of getting any finances for the things needed to maintain good health and other necessities of which we hear and are told, we should have, to be good citizens and healthy Americans.

Most all communities cannot afford even a trip to Washington to seek assistance. However, one of our more ambitious Mayors requested fifty thousand dollars to maintain an office in Washington to be nearer the source of Federal grants, loans and gifts. Thanks to Councilwoman Mary Beck, it was defeated.

You may say, what has all this to do with Pollution? Well; let us look back a bit, on the 27th and

and 28th of March 1962, a Conference was held at The Veterans Memorial Hall in Detroit. The findings of the United States Public Health Service substantiated that there was definite cause for a thorough investigation into the cause of Pollution. This was substantiated by written and oral evidence by many State agencies, the Army Corps of Engineers, various Sportsmans Clubs and a Citizens Group known as the Lake Erie Cleanup Committee, who not only submitted written evidence, but also twenty nine jars of water in various degrees of Pollution, taken at twenty nine separate locations, ranging from the Toledo, Ohio State line to and including River Raisin, Lake Erie, Swan Creek, Huron River, Detroit River and River Rouge.

A statement was made at this conference that the people in the Lake Erie and Monroe area couldn't possibly have such a problem. One of Detroit's leading citizenry even went so far as to state that; a little refuse doesn't hurt anyone and that perhaps he would be asked to put diapers on the Wild Ducks flying over these waters so it could stay clean. A very intelligent remark to be made by a man who is looked up to by many. In recent statements to the Press he ridiculed the U. S. Public Health Personnel for doing a thorough job. (I know it was thorough, because I personally followed all or almost all of the study) when others of our organization were able they also followed the progress. According to this man's statement this was all a waste of time and uncalled for. The water quality is so much more improved and has been on the up-grade since 1940. If this water is so much better, then the jars we have on display on the table must be fakes? However these don't seem to coincide with the statement made by Mr. Remus.

On March 27, 1964 the Water Resources granted permission for the Stauffer Chemical Corporation to dump $4,000 worth of chloride into the River Raisin.

May 14, 1964 State Conservation Board takes action to get two additional parks.

March 24, 1964, Home Canning and Blissfield Canning resented the permission granted by State Water Resources.

March 28, 1964, Representative has Bill passed to permit boats under twenty-five feet to dump waste into our waters.

July 27, 1964, river waste in Clinton River forces Utica to ask for Detroit water.

I also submit clippings to show how much Lake Erie has deteriorated. As Justice William O. Douglas stated, sewage treatment plants not dams are needed.

John Chascsa

"SUB COMMITTEE REPORT OF PROPOSED USE OF OUR LAKE ERIE SHORE LINE"

MANY USES OF THE SHORES OF LAKE ERIE ARE EVIDENT AND AMONG THEM ARE RECREATION, INDUSTRIAL, RESIDENTIAL, PORT FACILITIES AND WILD FOWL AND SMALL GAME SANCTUARY.

LET US START AT POINTE MOUILLEE, LOCATED JUST BELOW GIBRALTER AND AT THE MOUTH OF THE HURON RIVER AND LAKE ERIE.

1) This area is best suited for recreation and for private enterprise, such as marinas, water side motels, summer recreational spas and scenic rest areas, as well as a number of other income producing enterprising ventures. This could also be a continuation of the Huron Metropolitan Park authority project, as well as a beach area.

2) Swan Creek and Estral Beach area - With little financial effort and a determination to develop a small craft harbor, this area could be turned into a financial boon for Monroe County as well as Berlin Township. Estral beach offers a very large area for small craft refuge and Swan Creek offers a most enviable position

for the accommodation of small boat races, rowing contests and many related fund-raising activities. There is room for the development of waterside motels, hotels, restaurants, launching sites, fishing and many other related activities.

3) Stony Point, Brest Bay area. There are no better facilities for boating, fishing, swimming and other water-borne sports as well as suitable residential facilities if and when developed further.

4) Bay Crest, Woodland Beach, Indian Trails, Detroit Beach area, located near the State-operated Park, Sterling Park. Ideal for the development of all-year-round housing and recreational facilities. There are excellent fishing and swimming facilities (when the water is not polluted), a magnet that draws people to this area. This could be a tourist attraction for the area as well as a haven for small boat enthusiasts.

5) Sterling State Park is an ideal location for tourists to be drawn to. It is the entrance to the Water Wonderland we brag so much of and find the people do not care to use for some unknown reason, except that perhaps the signs that are posted scare the people away. No one cares to oppose a sign that states that the water in the area is not safe for swimming or recreation. The site offers a possible trailer camp site, a tent site,

a launching site and a very (or could be) ideal picnic site. Ideally located for Ohio, Indiana and Pennsylvania and Michigan residents to get to in a little time, and close enough to employment that it could be an ideal location.

6) River Raisin and Port of Monroe area - This area could be developed into a very choice controlled industrial area as well as possible annex to Sterling State Park. A very fine location for a Port facility.

7) Plum Creek, Bolles Harbor, Luna Peir, La Plaisance Bay and all the Shore line to Toledo, is an ideal location for small boat facilities as well as other diversified recreational activities and a small boat harbor. Below Luna Peir ideally suited for controlled industrial development.

This whole area is easily reached and travel is ideal and should be developed.

Submitted by John Chascsa
Sub-Committee Member

John Chascsa

ON POLLUTION

Editor, Evening News:

I am 9 and I am interested in fish. I have been reading about water pollution and how it kills fish. I was wondering what the city of Monroe is doing about water pollution.

David Strayer
820 Hollywood Dr.

February 17, 1965

Editor's Note:

Pollution is not a problem that can be solved locally, either by Monroe or any other single community. Millions of dollars are being spent in a co-operative effort to solve the problem, or at least to minimize it.

Monroe Mayor William J. Agusta said the water-pollution problem is being attacked by local, county, state, federal and international officials. He said Monroe is awaiting results, due next month, of an extensive survey undertaken by the Army Corps of Engineers which is expected to pinpoint the origin of pollution from the Detroit River to regions in Ohio. The engineers will make recommendations to solve the problem.

Dr. C. D. Barrett, director of the Monroe County Health Department, said the Public Health Service is completing a $2\frac{1}{2}$ year study of the problem which involved taking water samples from lakes, rivers and streams in this region.

We congratulate you, David, for taking an interest in such an important civic problem at an early age. Keep on being interested, interest your friends and you and they interest grownups. When enough people are concerned, a way will be found to cure conditions which now exist.

John Chascsa

LAKE ERIE CLEANUP COMMITTEE
NEWPORT, MICHIGAN - 48166

March 30, 1965

Master David Strayer
820 Hollywood Drive
Monroe, Michigan

Dear David:

How does one answer a nine year old boys' letter? It is difficult, but I will try.

Though you probably have never heard of me, I feel as though I have known you all of your young life. You see, I have two boys and four girls and they too were nine years old one time.

Like yourself, they enjoyed to swim, boat and fish and though they are now much older, they still enjoy the waters.

My children were able to swim in Lake Erie without too much fear up until five years ago. Since then however, my youngest daughter is unable to swim in Lake Erie because whatever pollutes the water makes her ill and causes her skin to erupt. I can recall when as a boy, I could drink this water without any ill effect but today it would be foolhardy to even try.

In 1961, Mary Margaret Revel attempted to swim a long distance down the Detroit River to Lake Erie and to Toledo. In August 1962, Barbara Smoot tried to swim from Amherstburg, Ontario to the River Raisin at Monroe. Both girls became very ill from the pollution in both the Detroit River and Lake Erie.

Yes David, many tests have been made of the water in Lake Erie and the streams emptying into it, but it seems that there is still enough room to store additional research data and we probably will not see the day when actual efforts are put into motion to once again make these waters safe.

Pollution which starts at the kitchen sinks; at the drains of factories and at the sewers of municipalities wind-up eventually in our rivers and lakes.

Yes David, studies have been conducted for the past forty years or more and many are being conducted at the present time. Many Village, County and State Committees are functioning as representatives of those of us who are paying their salaries and they certainly have not given us our dollars worth. Then too, David, there is the big overshadowing benevolence of some Industries who tell us, the public, that they will give us a playground; a nice large swimming pool; a nice money-contribution for a Civic Center and many other good things. All this to be given at no cost to the communities affected, in return for permission to pollute our rivers and lakes. Yes David, no cost!

Let us see how this works - for the sake of something to say. When some industries move into a community, the air becomes white with lime dust; red with iron ore dust; black with coal dust and on top of all this, SMELLY. The water that I could swim in as a boy of nine, drink without filtering and fish in, is now dirty, slimy and all colors of the rainbow. Very little fishing now -- to drink the water would be suicide and swimming is only for the dare-devil types.

Yes David, our waters have become like "Russian Roulette". One never knows when Hepatities, Dermatities, Typhoid or perhaps something worse will get you. In 1962, our Water Resources Commission and our Health Department and several of our Commissions told us "you people have nothing to worry about in Monroe County. The siltation that is prevalent in the lake is natural and cannot be controlled." They failed however to mention how many times a day barge after barge brought waste from dredging and other sources and dumped it into Lake Erie. They also did not mention the mess made by dumping the waste from River Raisin, River Rouge and the Detroit River into Lake Erie and the resulting end - the destruction of all the beach areas in Michigan and Ohio which border Lake Erie.

Oh yes - they also do not mention the eight dumping grounds from Cleveland to the mouth of the Detroit River. Yes David, educated adults deprive you of your right to accept or reject something which you have a right to. It is not considered wrong, it is Politics and you just do not have a voice in the matter.

If you should pile your rubbish alongside of your neighbors' fence and it spills over into his yard, you are wrong. If you were to build an outhouse at the rear of your yard and it smells up the neighborhood, you most certainly are wrong and could be put into jail and looked upon as an idiot for daring to endanger the health of your neighbors. But - not if you pollute the rivers or lakes.

Yes David, when you talk of these things to come of our public protectors, they say, water can be made safe for human consumption. They speak a partial truth however, for not so long ago in Colorado the water in a small community was treated so very thoroughly that it caused the Hospitals in the area to be filled with "nine year old " children as well as others over and under nine.

David, when you grow up, I hope you will be able to help make people realize that everyone should be considered when water and air is to be polluted by anyone. I hope when you are a man that other men will have developed, not only a rocket to the moon, fresh water from sea water, missiles that can be sent soaring five thousand miles or more, but also a healthy respect for their fellow man by purifying all industrial and municipal waste as well.

Well David, I hope you will remember that there are many groups like the Lake Erie Cleanup Committee, who are fighting to clean up the air and water for the next generation - of which you are a part. If the men of our generation cannot find the time to eliminate pollution, then it will have to be done by the Mothers and their sons and daughters.

Let us learn to be honest with one another. We can, then, once more hold our heads high.

God Bless you David and guide you through your life.

Your friend,

Sincerely,

JOHN CHASCSA, President

Lake Erie Cleanup Committee

MR. STEIN: I would now like to give you what the schedule for tomorrow and subsequently is going to be.

We are going to have the municipalities and the industries, and here is the tentative line-up:

1. The City of Detroit.
2. The City of Wyandotte.
3. Grosse Ile Township.
4. Supervisory Intercounty Committee.

Then we go to the Great Lakes Steel, McLouth Steel, Allied Chemical and the various divisions, Scott Paper, Wyandotte Chemical, Pennsalt Chemicals, Monsanto, Ford Motor Company; and there may be a statement from duPont.

So, at the present time, we shall stand recessed until 9:30 tomorrow morning.

Thank you.

(Whereupon, at 4:55 p.m., an adjournment was taken until Thursday, June 17, 1965, at 9:30 a.m.)

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